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FACT BOOK

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INTRODUCTION

The story of A. O. Smith Corporation is a saga of industrial ingenuity. It is the story of the progress of C. J. Smith's small Milwaukee machine shop, opened in 1874, to today's giant and diverse complex which continues to move in new directions.

The company has long been known as one of the world's largest makers of automotive frames. Future plans call for the continued growth of the automotive frame business, consistent with the growth of the automotive industry. But management expects even faster sales and profit growth from its agricultural, consumer, industrial and petroleum equipment markets.

Both net and per-share earnings of A. O. Smith showed increases in 1965, 1966 and 1967, and still further increases are expected in 1968. Contributing to this improved performance has been the elimination of various divisions and units which had profit performances ranking below the level of acceptability. Sales for these operations totaled about $60 million annually.

Principally because of their long-range earnings limitations, the company phased out its private label water heater business, sold its welding products and glass coated chemical processing equipment businesses, and discontinued the manufacture of glass-lined beer tanks, heavy process equipment and water softeners. These actions were part of a plan successfully aimed at improving profitability and providing resources to support specific businesses for development.

For some time, A. O. Smith has been placing greater emphasis on the planning function of its business. This is the principal responsibility of Lloyd B. Smith, chairman and chief executive officer.

Planning involves the development of goals and objectives for all levels of management, as well as for the corporation itself. Plans are developed by the operating units and are spelled out in detail, not only for the coming year, but for five years ahead. Progress is checked against divisional and corporate goals by a system of regular controls. Incentive compensation plans for management are keyed to these objectives as well.

The company's immediate and first priority is to attain a profitability level comparable to the average performance of manufacturing concerns.

Long range plans are designed to achieve consistent and orderly growth. They seek to control the development of the business and the character of the company's diversity so as to provide a balanced growth in volume and profits. The company's various fields of endeavor presently offer opportunity for appreciable growth in present products, as well as through new products. There are also broad possibilities for acquisitions which would complement current operations.

Over the years, A. O. Smith has produced for the United States and the world more than 75 million passenger automobile frames; more than 55,000 miles of line pipe for gas and oil pipe lines; storage and feeding facilities for millions of cattle; about 10 million water heaters and electric motors and controls with hundreds of applications.

A highly diversified, publicly-owned manufacturer of products for farm, home and industry, A. O. Smith has 19 plants in the United States and abroad which it operates directly or in partnership with other companies. Its 12 principal operating divisions serve a broad spectrum of markets. Headquarters and A. O. Smith's largest manufacturing operation are in Milwaukee, where the company was founded in 1874.

Throughout its history, the company has placed emphasis on research and development. Among its outstanding innovations are the tubular bicycle frame as we know it today; the first pressed steel automobile frame; the application of flash welding to the mass production of large diameter line pipe,

and a process for fusing glass to steel. The latter made possible the glass-lined water heater which revolutionized the industry, and Harvestore structures.

Other technological advances include the creation of a lightweight, corrosion-proof pipe made by spinning strands of glass fiber filament on a mandrel and impregnating them with epoxy resin, or vinylester, and development of a steel powder for forming parts which require little or no machining.

When World War II began, A. O. Smith was able to quickly adapt its resources and know-how to become a major producer of bomb casings, aircraft propellers and other materials for the Allies. It presently serves the nation as a prime contractor in the manufacture of bomb casings.

The history of A. O. Smith has been one of constant alertness to the needs brought about by a principal fact of life—change. By applying its technology to these needs and developing new products to meet them, the company now has an annual sales volume in excess of $350 million.

BRIEF FACTS

Firm founded at Milwaukee, Wisconsin, by Charles J. Smith in 1874, as a machine shop. Became C. J. Smith & Sons in 1885. Incorporated under the laws of the state of New York as A. O. Smith Corporation in 1916.

* * *

In 1889, Smith developed the first lightweight bicycle frame made from tubular steel, and ultimately became the largest maker of bicycle parts in the U.S.

* * *

In 1899, introduced the first pressed steel automobile frame. Established the first mass production frame line in 1907, and made its first truck frame in 1911. Since then has become the world's largest producer of frames (more than 75 million for autos) and other structural automotive parts.

* * *

In 1918, developed the first coated welding rod in the United States, a major breakthrough in mass production welding. Also perfected a new method of arc welding and became largest U.S. manufacturer of bomb and shell casings for World War I.

* * *

In 1921, A. O. Smith's son, Lloyd R. Smith, unveiled the first fully automated frame assembly plant. Producing a frame every eight seconds, it turned out 7,500 a day.

* * *

In 1927, perfected the manufacture of large diameter line pipe from steel plate, launching the nation's transcontinental large diameter pipeline system. In 1929, introduced flash welding of 40-foot lengths of pipe. A. O. Smith has produced over 55,000 miles of line pipe, more than enough to twice encircle the globe.

* * *

Began experimenting with a process for fusing glass to steel in the 1920's and in 1933 introduced its first commercial application in a large, single piece, glass-lined brewery storage tank. It made 11,000 before discontinuing the product.

* * *

In 1937, entered the meter system field. Including meters in the last 40 years, A. O. Smith has produced more than $2 billion worth of products used by the petroleum industry for the handling of oil and gas.

* * *

In 1939, produced the first of about 10 million A. O. Smith glass-lined water heaters, prototype of 95 percent made by this industry today.

* * *

In World War II, produced nearly five million bomb casings. Since then has made major components for defense and space mechanisms.

* * *

Harvestore automated feed storage systems, the heart of which is the steel, glass-lined structure, were perfected in 1946. The more than 20,000 produced so far help farmers reduce livestock feed costs through modern farm management methods.

* * *

Multi-million-dollar damages suffered by railroad equipment and freight as a result of impact shock in switch yards resulted in the A. O. Smith development of Hydra-Buff, an end-of-car cushioning device. This product was marketed in 1963 after extensive research. Today, along with CR Cushion Ride, a long-travel hydraulic cushioning unit built into the center of the freight car frame, Hydra-Buff is used widely in the railroad industry.

* * *

In 1962, acquired the Clark Controller Company, a key electrical equipment manufacturer in the field of systems control. A. O. Smith doubled Clark's sales volume in four years, a major advance in an unlimited market.

* * *

The company's electric motor facility, established by acquisition in 1940, is growing so fast that a plant in 1964 had to be more than doubled in size in 1966. It is the largest producer of above-ground jet pump motors, but its principal market is the expanding air conditioning and refrigeration industry.

* * *

A. O. Smith international operations are concerned principally with petroleum meters, Harvestore products, water heaters and automotive frames. The company operates two plants in Canada. Affiliates are located in West Germany and Mexico, in addition to sales outlets and licensees throughout the Free World.

* * *

Net sales and earnings for 1967 amounted to $329,976,000 and $9,627,000, or $3.87 a share, compared with $318,433,000 and $8,738,000, or $3.51 a share, in 1966. In 1967 earnings improved for the third consecutive year.

* * *

As of January 1, 1968, there were 5,612 owners in all 50 states and abroad of 2,486,970 shares outstanding of an authorized 3,000,000 shares of A. O. Smith stock. Range of the stock in 1967 was from 22⅝ to 36¾. Dividends, which have been paid without interruption since 1940, are now $1.40, or 35 cents quarterly. The company employs about 15,000 persons in its 19 plants.

* * *

Sales in 1967 were: Automotive division $154 million (47 percent); Tubular Products $34 million (10 percent); Meter Systems $16 million (5 percent); Electric Motors $32 million (10 percent); Electrical Controls $29 million (9 percent); Consumer Products $25 million (7 percent); Harvestore $24 million (7 percent); and all other product divisions $16 million (5 percent). The latter includes, among others, Smith Plastic operations at Ionia, Michigan, and Little Rock, Arkansas, Railroad Products division and Powder Metallurgy division.

* * *

HISTORY

In 1843, Charles Jeremiah Smith, an English immigrant, settled in Milwaukee, Wisconsin, and opened a small blacksmith shop. He brought to his forge and anvil the skills he had gained earlier during a five-year apprenticeship with the respected British engineering firm of Maudslay, Sons & Field, pioneers in the design and manufacture of machine tools.

He was also guided by a philosophy which has remained a cardinal principle of A. O. Smith's operating procedure to this day—quality of product, alertness to new trends, and matching technology to current needs.

Smith married Mercy Johnson, a young lady he had met aboard ship on the voyage from England. Subsequently, they had nine children, one of whom was Arthur Oliver Smith, born in 1859.

The Civil War brought large shipments of grain and livestock to the port of Milwaukee and enriched the city. This wealth, in turn, led to the start of new industries, many of which needed machinery and tools for production.

C. J. Smith met the challenge of change by opening a machine shop in 1874 to meet some of the requirements of the times. At first he did blacksmithing and made hardware specialties; later he produced axles and parts for baby buggies. This marked the beginning of the A. O. Smith Corporation of today.

In 1885, the firm became known as C. J. Smith & Sons. Perceiving a demand for lightweight bicycles, in 1889 Smith introduced the concept of forming steel tubing from sheet metal. He then fashioned and sold a strong, but light, bicycle frame made of brazed tubing and went on to become the largest maker of bicycle parts in the United States.

With the advent of the horseless carriage, C. J. Smith & Sons again responded to change. This time it was Arthur O. Smith who led the way, producing the industry's first automobile frame pressed from sheet metal in 1899.

Using the philosophy that "Smith did not recognize the accepted limitations of metal fabrication", Arthur O. Smith sold Louis Moore, chief engineer of the Peerless Motor Car Company, Smith's first order for frames. This sale was made at the Chicago automobile show of 1902, with production starting in 1903.

In 1906, Henry Ford was activating his theories of mass production and went to see A. O. Smith about supplying frames for his Model N. Smith proudly told Ford that his company was shooting for a production of 12 frames a day. Without batting an eyelash, Henry Ford told Smith he wanted 10,000 frames in four months and asked if he could do it. "Certainly," Smith replied, "that's what we're in business for."

Applying the Smith technology, Arthur O. Smith set up the first mass production frame line, with presses converted to produce two side rails or cross bars at one stroke, and piercing and assembly operations following in close sequence. The Ford order was completed on schedule. Before long, A. O. Smith was producing for 39 automobile companies, made its first truck frame in 1911, and in time became the world's largest producer of frames and other structural parts for cars and trucks. More than 75 million passenger car frames have been made by the company to date.

A. O. Smith died at 54 in 1913, and in 1916, the company was renamed A. O. Smith Corporation and incorporated under the laws of the state of New York.

With the advent of World War I, Smith engineers developed an improved method of electric arc welding, and within two years the company became America's largest manufacturer of bomb and shell casings. Also, in 1918, the company developed the first coated welding rods in the United

States, a major breakthrough in mass production welding. This was the start of a successful welding products business which lasted until the company sold it in 1965.

In 1921, Lloyd R. Smith, A. O. Smith's son who succeeded his father as president, unveiled the world's first fully automated assembly plant in Milwaukee. His "mechanical marvel" was capable of producing an automobile frame every eight seconds. It began operations at the rate of 7,500 frames a day, requiring only 180 men to supervise the operation. The machine moved frame components on a conveyor to a station where hundreds of rivets were blown pneumatically into pierced holes, and then, at subsequent stations, huge mechanical jaws automatically headed the rivets. The line remained in operation for 37 years before it was outmoded by the proliferation of automobile models.

With the rapid growth of the automotive industry, demands for petroleum products increased. Here again the company took advantage of opportunity in the changing times, and in 1925 it introduced the first electric-arc welded, high pressure vessel used for cracking crude oil into its refined components.

In 1927, A. O. Smith Corporation, the one-time maker of tubular bike frames, transposed this process and perfected a method of forming and arc welding large diameter line pipe from steel plate. This development made practical the nation's large diameter transcontinental pipeline system. In 1929, A. O. Smith developed a much faster process, flash welding 40-foot lengths of pipe made from steel plates.

Subsequently, the company has produced more than 55,000 miles of line pipe—including pipe for most of the major lines like "Big Inch" and "Little Inch" of World War II fame—more than enough to twice encircle the globe.

Also in the 20's, A. O. Smith began experimenting with the idea of fusing glass to steel, and in 1933, made its first commercial application in the form of a large, single-piece, glass-lined brewery storage tank. It produced 11,000 before discontinuing the product in 1965.

Another milestone was passed in 1936, when the company perfected a method for cold compressing steel pipe, making possible a higher strength casing for deep oil well drilling, a product which is in increasing demand today as wells are drilled in excess of 10,000 feet.

From 1936 to the present, A. O. Smith has continued to serve the petroleum industry, entering the meter systems field with the acquisition of the Smith Meter Company of Los Angeles in 1937; the service station pump division of the Neptune Meter Company in 1948 and Erie Meter Systems in 1958. The company now produces meters, control valves, gasoline pumps, automated terminal loading and fleet fueling systems, and glass fiber reinforced epoxy pipe for use in oil fields and as an economical alternative for replacing old gas mains.

These products are essential to the production and handling of the millions of gallons of petroleum products and billions of cubic feet of natural gas which the U.S. consumes each day. All told, A. O. Smith has produced more than $2 billion in products for the petroleum industry over the last 40 years.

In 1939, the company's engineers developed a glass that could be used with hot water and a water heater design compatible with the glass coating process. The company then produced its first glass-lined water heaters, a type which today accounts for 95 per cent of industry output.

In 1940, A. O. Smith acquired the Sawyer Electrical Manufacturing Company of Los Angeles and entered the electric motor field. The company expanded this business in 1950 with the acquisition of Whirl-A-Way Motors, Tipp City, Ohio.

After Dec. 7, 1941, the company's metal working skills were applied to military material and it became a leading World War II producer of bomb casings, hollow steel propeller blades, aircraft

landing gear, nose frames and torpedo air flasks. It produced almost five million casings, making it the major source of large bomb casings for the Allies. It also made equipment for the first atomic bomb project.

Similar military production was engaged in from 1951 through the Korean conflict, and the company is now producing bomb casings for current Department of Defense requirements.

After World War II, A. O. Smith went into the water heater business in earnest, built the world's largest water heater plant in Kankakee, Illinois, and ultimately became one of the nation's leading manufacturers of water heaters. It has produced almost 10 million since 1939.

The company is also a significant factor in the growing gas hydronic, or hot water heating, industry which annually sells $40 million in equipment for the heating of homes and commercial establishments.

In 1946, A. O. Smith adapted the principle of glass-coated steel to agriculture, introducing the Harvestore, a huge, silo-like feed storage and mechanical bottom-unloading-feeding system. This was a major breakthrough in livestock feeding methods, and more than 20,000 of these can be seen on farms and ranches today.

The Harvestore principle has also been adapted for commercial and industrial uses in handling bulk materials.

In 1961, the company introduced the Hydra-Buff end-of-car cushioning device for railroad freight cars, designed to eliminate the extensive freight damage caused by impact shock in switching operations. A later product was the CR Cushion Ride sliding sill device which is built into the center of the car frame for the same purpose.

In 1962, A. O. Smith acquired the Clark Controller Company, an electrical controls firm which was established in 1925. It subsequently became the Clark Control division. A new manufacturing plant, one of Clark's four, was built in 1964.

In the electric motor field, A. O. Smith decided to concentrate on the production of hermetic and fractional horsepower motors used for air conditioning and water pumping systems. With the boom in air conditioning—approximately five million packaged units in 1967—the company expanded its production facilities in 1964 to include a second motor plant, which has since been more than doubled in size.

In 1966, A. O. Smith introduced its steel powder, an improved metallurgical development for the production of precision parts with little or no machining.

Along the way, the company made affiliate associations to meet the demands of its businesses. The first of these, made in 1949, was with Armco Steel Corporation and the result was formation of A. O. Smith Corporation Of Texas. This jointly owned corporation specializes in the production of line pipe and manufactures bomb casings.

In 1961, A. O. Smith formed a corporation jointly with The Dow Chemical Company for the fabrication of glass fiber reinforced epoxy pipe and other products for the electrical, petroleum and chemical industries. This company, called DowSmith Inc., began operations in 1962. Added to this operation in 1964 was the Mitchell-Bentley Corporation plant in Ionia, Michigan. That plant has facilities for the production of specialized vehicle bodies in plastic and steel, and other plastic moldings and assemblies for industry. In 1966, A. O. Smith purchased Dow Chemical's 50 percent share of DowSmith, and it became the Smith Plastics division of the parent concern.

International operations, which now deal for the most part in water heaters, automobile and truck frames, meters and Harvestores, began in 1945. Through the years, the company has added

branch offices with locations now in Cape Town and Johannesburg, South Africa, and London, England, and operates a plant in Stratford, Ontario. A. O. Smith products made in the United States are exported through a worldwide network of distributors.

Currently, the International division is affiliated with two foreign companies. They are Mannesmann-A. O. Smith International GmbH of Dusseldorf, Germany, and Manufacturas Metalicas Monterrey, S.A., of Monterrey, N.L., Mexico. It owns 50 percent of the German company, which was formed in 1962 to produce Harvestores, and 40 percent of the Mexican concern, which it joined in 1961 to manufacture automotive frames. In addition, the company has licensing agreements for the manufacture and sale of A. O. Smith products in areas throughout the Free World.

After the end of World War II and until the early 1960's, the company produced atomic reactor components, steel vessels for the Vanguard, Atlas and Polaris missiles, pressure vessels for atomic energy, hydro-electric plant penstocks and a variety of such welded products.

In management, Lloyd B. Smith, Lloyd R.'s son, who had been president since 1951, became chairman and chief executive officer in 1967. Urban T. Kuechle, executive vice president, became president at that time.

Looking to the future, the company has solid and continuing markets in the transportation, petroleum, and water heating industries. However, it believes that in electric motors, electrical controls, meter systems and agricultural products, it has a significant challenge and opportunity that will have an important effect on its prospective performance. It is in these areas that A. O. Smith is now looking for additional long-term growth and improvement of profitability.

FINANCIAL

Objectives

Foremost in management thought at A. O. Smith is profit improvement. The company intends to develop an improved balance in its overall business so that no one market holds a dominant position. Therefore, greater growth emphasis will be placed on the industrial, agricultural and consumer markets. Of course, the firm's automotive business will continue to occupy an important position as these other areas begin to contribute increasingly higher percentages to overall sales.

Such a sales picture is expected to go a long way toward minimizing the cyclical performance of earnings, which at times in the past have been tied closely to the fortunes of the auto industry.

At A. O. Smith, planning for the future is a continuous activity. Goals are spelled out in a "Forward Plan" which details what the company expects of itself as a whole and from each of its 12 operating divisions for the coming five years.

In the financial area, the primary goal is profitability sufficient to provide a satisfactory return on stockholders' equity. The company feels that it must at least equal the average performance of manufacturing concerns, which has ranged from 10 to 14 percent from 1963 through 1967.

As a complement to the internal growth of its present product lines, the company is considering possible acquisitions in compatible fields.

Income

Net income for the year 1967 was $9,627,397, or $3.87 per share, adjusted for a 5 percent stock dividend declared on January 17, 1968. This was the third consecutive year in which the company's earnings have shown marked improvement.

Before adjustment for the 1968 stock dividend, net earnings amounted to $4.06 a share, an increase of 10.2 percent from $3.69 in 1966. Considering the effect of the 1968 stock dividend, net 1967 earnings were $3.87 a share, compared with $3.51 per share for 1966.

The steady upward trend is attributed to the execution of a carefully planned program of phasing out unprofitable operations, and tightening up and streamlining others. To improve profitability, the company eliminated divisions with annual sales totaling about $60 million because their potentials were not compatible with future company objectives. Among other moves, A. O. Smith discontinued the manufacture of private label water heaters and expanded its own line; sold its welding products business and its Glascote chemical processing equipment business and discontinued the manufacture of glass-lined beer storage tanks, heavy process equipment and water softeners.

The capital and much of the talent released by these moves has been invested in other areas of the corporation where growth required such increases.

Stockholders have shared in the company's progression in the form of increases in the cash dividend in 1966 and 1968. In addition, 5 percent stock dividends were issued in 1966, 1967 and 1968.

Sales

Net sales in 1967 amounted to $329,976,263. The 1967 sales showed a 3.6 percent increase over the $318,433,127 volume of 1966 and was second only to the company's 1965 volume of $358,441,000, highest in its history.

The profit shown from 1965 through 1967 has been due to a number of factors, not the least of which is a change in the company's sales base. This has involved putting greater emphasis on the company's businesses which have promising growth areas, while maintaining the continuing progression of its automobile and truck frame business.

A breakdown of the company's sales volume by product line is as follows:

A. O. SMITH CORPORATION
SALES VOLUME BY PRODUCT LINE
(000 omitted)

PRODUCT DIVISIONS	1967 Sales	%
Automotive	$154,000	47
Tubular Products	34,000	10
Meter Systems	16,000	5
Electric Motors	32,000	10
Electrical Controls	29,000	9
Consumer Products	25,000	7
Harvestore	24,000	7
SUB-TOTAL	$314,000	95
All Other Product Divisions	16,000	5
TOTAL	$330,000	100

Sales of A. O. Smith Corporation of Texas (not consolidated)

Line pipe	$ 47,500
Bomb Casings	47,000
	$ 94,500

Dividends

The company has paid dividends without interruption since 1940. In July, 1968, it declared a quarterly dividend of 35 cents, establishing a new rate of $1.40 annually. This was an increase from 30 cents in the first quarter of the year, and from the $1.20 rate paid in 1967 and $1.15 in 1966. It was also announced that it was intended that stock dividends be discontinued.

Cash dividends in 1967 totaled $2,808,000 and represented 29 percent of earnings.

As of January 1, 1968, there were 2,486,970 shares outstanding at $10 par value, out of 3,000,000 authorized. Shareholders totaled 5,612 in all 50 states and abroad. The number of shares outstanding excludes 19,299 shares of treasury stock and recognizes a 5 percent stock dividend on January 17, 1968. The Smith Investment Company owns about 53 percent of the common stock. Price range of the stock (SMC) in 1967 was from 22⅝ to 36¾. The range for the first half of 1968 was from 32¼ to 43⅞.

Financial Condition

At the end of 1967, current assets totaled $116,086,589 and current liabilities $36,361,554, a ratio of 3.2 to 1. Current assets decreased slightly by $752,267 during the year, while current liabil-

ities decreased by $2,146,959. Working capital amounted to $79,725,035, about $1,392,000 higher than a year earlier. Cash totaled $6,300,567.

Inventories increased to $65,478,758 during 1967 from $61,707,341 in 1966. Customer needs, near-record sales and expanded facilities necessitated this higher level of inventories.

Total assets at the end of the year stood at $190,741,833, compared with $190,824,282 in 1966.

The company has a long-term debt obligation of $30,348,000, reduced from $33,601,000 at the end of 1966. Of this total, $24,000,000 is in long-term notes with final maturity in 1983, and $6,348,000 is in long-term lease obligations, expiring from 1983 to 1986.

Total shareholder equity at the end of 1967 amounted to $119,440,005, compared with $112,621,024 in 1966. The 2,486,970 shares outstanding at the end of 1967, of 3,000,000 authorized, compared with 2,368,543 in 1966. Book value of the stock at the end of 1967 was $48.03 per share, based on the 2,486,970 shares outstanding. The company is listed on the New York Stock Exchange.

Capital Expenditures

To sustain its growth in its businesses, capital expenditures have risen significantly in recent years. From 1964 through 1967, the company invested $50,550,000 for new plant, property and equipment. Of this total, $10,979,000 was spent in 1967.

Gross plant and equipment expenditures amounted to $157,040,000 at the end of 1967 compared with $127,975,000 at the end of 1963.

The company has adopted the straight-line method of recording depreciation provisions, beginning with acquisitions made after December 31, 1966. In former years, it has used accelerated methods for computing depreciation. It will continue to use these accelerated depreciation methods for tax purposes. The change had little effect on 1967 earnings.

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	1967	1966	1965
NET SALES	329,976	318,433	358,44
Operations			
Earnings Before Taxes (1)	9,700	10,842	10,81
As % of Sales	2.9%	3.4%	3.0%
Net Earnings	9,627	8,738	7,91
Per Share (2)	3.87	3.51	3.18
As % of Sales	2.9%	2.7%	2.2%
As % of Stockholders' Equity (4)	8.3%	8.0%	7.6%
Effective Tax Rate	36.4%	33.0%	36.6%
Depreciation	10,172	8,842	9,57
Cash Flow (Earnings and Depreciation)	19,799	17,580	17,49
Per Share (2)	7.96	7.07	7.03
Cash Dividends	2,808	2,567	2,14
Per Share (2)	1.13	1.03	.86
As % of Net Earnings	29.2%	29.4%	27.1%
Stock Dividends	5%	5%	—
Working Capital			
Cash & Marketable Securities	8,299	9,558	14,15
Receivables	41,598	39,415	35,52
Inventories & Other Assets	66,190	67,866	59,17
Total Current Assets	116,087	116,839	108,85
Current Liabilities	36,362	38,509	31,50
Working Capital	79,725	78,330	77,34
Current Ratio	3.2	3.0	3.5
Capitalization			
Stockholders' Equity	119,440	112,621	106,44
Long Term Debt:			
Notes Payable	24,000	27,000	31,00
Lease Purchase Obligation	6,348	6,601	—
Total Long Term Debt	30,348	33,601	31,00
Approximate Number of Stockholders	6,000	5,500	5,00
Book Value Per Share (2)	48.03	45.28	42.80
Plant and Equipment			
Gross	157,040	151,165	128,61
Accumulated Depreciation	91,385	85,919	77,93
Net	65,655	65,246	50,67
Capital Expenditures	10,979	16,318	6,59

(1) Operations earnings before taxes are after interest expense but before other income and expense including equity in earning
(2) Based on shares outstanding at December 31, 1967. Adjusted for 5% stock dividend declared January 17, 1968, or 2,486,9
(3) In 1963 the Company changed its fiscal year from July 31 to December 31. Data shown is for short period August 1, 19
(4) Stockholders' equity as used by this ratio represents the average of the beginning and ending balances.

ion CONSOLIDATED

ial Summary
for Per Share Value)

1964	(3) 1963	1963	1962	1961	1960	1959	1958
99,852	112,585	281,819	249,053	221,952	265,178	283,650	252,199
(1,782)	3,620	8,535	8,574	(5,740)	8,003	17,995	10,568
(.6%)	3.2%	3.0%	3.4%	(2.6%)	3.0%	6.3%	4.2%
1,512	1,819	5,513	5,922	(1,370)	5,557	13,082	7,320
.61	.73	2.22	2.38	(.55)	2.23	5.26	2.94
.5%	1.6%	2.0%	2.4%	(.6%)	2.1%	4.6%	2.9%
1.5%	1.8%	5.4%	6.0%	—	5.5%	13.0%	8.4%
—	51.4%	46.0%	46.8%	—	44.5%	43.0%	44.2%
8,875	3,542	8,151	8,579	8,169	7,379	6,852	6,796
10,387	5,361	13,664	14,501	6,799	12,936	19,934	14,116
4.18	2.16	5.49	5.83	2.73	5.20	8.02	5.68
2,147	536	2,145	2,145	3,415	4,173	3,283	3,245
.86	.22	.86	.86	1.37	1.68	1.32	1.30
42.0%	29.5%	38.9%	36.2%	—	75.1%	25.1%	44.3%
—	—	—	—	2%	2%	2%	2%
7,434	12,313	10,198	9,175	14,891	11,546	11,841	21,356
38,947	36,322	36,262	32,555	22,155	25,627	24,681	20,635
62,811	49,919	54,168	44,657	39,659	45,171	48,205	36,167
09,192	98,554	100,628	86,387	76,705	82,344	84,727	78,158
42,874	22,508	23,726	19,536	15,323	16,591	17,599	15,366
66,318	76,046	76,902	66,851	61,382	65,753	67,128	62,792
2.5	4.4	4.2	4.4	5.0	5.0	4.8	5.1
00,675	102,498	101,216	101,740	96,898	101,683	100,299	90,500
32,440	32,570	32,570	25,000	26,000	27,000	28,000	29,000
—	—	—	—	—	—	—	—
32,440	32,570	32,570	25,000	26,000	27,000	28,000	29,000
5,000	5,000	5,500	5,500	5,000	4,000	3,500	3,000
40.48	41.21	40.70	40.91	38.96	40.89	40.33	36.39
37,012	127,975	126,958	116,200	114,148	110,526	103,596	100,866
78,138	74,083	72,258	64,237	60,444	56,429	53,123	52,083
58,874	53,892	54,700	51,963	53,704	54,097	50,473	48,783
16,657	3,491	8,581	8,422	8,714	12,133	11,133	10,572

subsidiary and affiliated companies (50% owned).

ıber 31, 1963.

MARKETING

Methods of distribution vary with each product line and are in accordance with the needs of the respective markets.

In transportation, automotive parts are distributed by direct sale to car and truck manufacturers. Freight car parts are distributed through a national distributor of railroad products.

A. O. Smith electric motors are sold directly to original equipment manufacturers of such products as air conditioning and refrigeration equipment, water pumping systems and home dishwashers. The motor markets supplied by A. O. Smith require custom-engineered motors which are designed to meet individual specifications of the original equipment manufacturers. The company's ability to fulfill this requirement and to deliver promptly has given it a distinct competitive advantage.

The Meter Systems division recently reoriented its marketing philosophy to greater emphasis of franchised distributors. Meter Systems, through the efforts of the International division, has expanded its foreign markets due to greater support to overseas distributors and through the supply of a very broad line of metering and control products. Sales and service schools are conducted on a continuing basis at the division's plant and at various overseas locations.

The Clark Control division uses two marketing methods. Standard or shelf items, such as push buttons, starters, switches and relays, are marketed through an extensive organization of electrical control distributors and to O.E.M. accounts. Electrical control systems are sold directly to those requiring industrial process control systems such as those found in the steel industry. Clark has the largest sales force in the company, with about 80 men.

A. O. Smith steel powder is sold directly to fabricators of parts or producers of welding electrodes.

Distributors sell Smith Plastics' glass fiber reinforced epoxy and vinylester pipe and fittings to the petroleum and chemical industries, to other industrial users, and to the utilities. Backing up this distributor organization is a division force of 25 marketing experts who provide support services.

Residential and commercial glass-lined water heaters and other water heating products of the Consumer Products group are marketed by about 500 utilities and liquefied petroleum dealers, and by more than 500 independent distributors, who, in turn, serve more than 25,000 dealer outlets.

Line pipe is sold directly to petroleum and natural gas transmission and distribution companies. Casing is sold directly to producers of petroleum and natural gas, as well as through distributors serving the same industries. Field stocks of casing are maintained at convenient locations.

Harvestore systems and other agricultural products of A. O. Smith Harvestore Products, Inc., a subsidiary, are distributed nationally through 65 franchised dealers.

To facilitate the retail sale of its agricultural equipment, Harvestore has its own financing subsidiary, AgriStor Credit Corporation. Organized solely to help farmers and ranchers purchase Harvestore systems, it is not a competitor of local banks or farm credit agencies.

International distribution of all products is handled through A. O. Smith's International division through a net work of 119 foreign distributors, dealers and representatives in 84 countries.

TECHNOLOGY

The current operating plan in research and development and engineering at A. O. Smith is to place greater responsibility with the individual divisions of the company. This concept is based on the belief that the requirements of the immediate future are most clearly apparent to those closely involved in the management of a particular division.

However, the company also maintains a strong and well-staffed central research and development operation at the corporate level. Its function is to evaluate, support and extend the capabilities of the divisions. Central R&D provides broad technical talents in support of the divisions and concentrates on projects which are beyond divisional capabilities, such as long-range developments.

A. O. Smith credits research and development with being the major factor in its growth. Guided by the principles of product improvement, broadening markets and developing new products, the company's results have often brought about significant changes in the products and manufacturing processes of the industries it serves.

Planning for the future is a cornerstone of the A. O. Smith operating structure, and its research and engineering is closely tied to the objectives developed by the planning process.

While A. O. Smith's technology has long been primarily concerned with industrial processes in welding, metallurgy and ceramics, currently increased emphasis is in the electrical field, in which a number of the operating divisions are involved. Some of the projects are concerned with adapting solid-state components to electrical control apparatus and long-range development studies in electric motors.

Two of the company's more recent product lines resulting from its technological efforts are glass fiber reinforced plastic and steel powder. The former has applications in corrosion resistant pipe and custom-molded parts. The latter, which forms a raw material for precision parts in the business machine, automotive, appliance and other industries, has a distinctive quality in that parts can be pressed to their exact dimensions with little or no machining.

Perhaps one of the greatest contributions of research and engineering to the company's growth and progress was the perfection of the first techniques for mass producing automobile and truck frames. This not only helped the introduction of mass production to the automotive industry, but initiated the leadership in this field which A. O. Smith enjoys today.

Frame development is typical of the company's dedication to quality products. Long before production ever begins, mathematical models of frames are designed by computer, and hand-built prototypes are subjected to tests for deflection and vibration characteristics. Stress patterns are read by polarized light, and probability curves are used to predict longevity. Test frames are tortured until they are destroyed on electronically programmed frame fatigue machines to prove the practicability of design theory. Finally, laboratory findings are checked by extensive road tests under actual driving conditions.

Another major technological contribution was the development of a process for fusing glass to steel—glass that was flexible enough to withstand the expansion and contraction of metal. This made possible the Harvestore, other storage and agricultural products, Permaglas and Glascote water heaters and other water heating units. All told, some 6,000 different glass formulas have been developed by A. O. Smith.

Among other notable results of research and engineering are the company's high-strength line pipe and extra-strong casing for deep-well oil drilling, automated fuel metering systems, solid-state packaged electrical control drives, and hydraulic cushioning devices for railroad freight cars.

A. O. Smith research and engineering is product oriented and conducted by about 700 scientists, engineers and supporting technical personnel in 20 separate laboratories. In any year, the company

spends more than $10 million for research, development and engineering. One out of every 20 employees is engaged in some sort of research or engineering activity. Their principal function is to carry out the company credo of having programs and products in various stages of development, in keeping with today's shorter product life cycles and accelerated change of pace. Research is an essential contributor to company know-how, an element which A. O. Smith considers all-important and necessary to meet the demands of the continuing change in markets and products.

The central research and development division is located at company headquarters in Milwaukee and is headed by a vice president. Its activities are divided into two sections—new products development and materials research—each of which has a director. Sub-divisions under new products include engineering analysis, product design, industrial, agricultural and consumer new product development. Materials research is divided into sections on plastics, ceramic and glass coating and metallurgical.

INDUSTRIES SERVED

A. O. Smith plays a vital role in many of America's markets—providing products for farm, home and industry.

In ground transportation, the company has supplied frames and other structural parts for many of the 94 million cars, trucks and busses which now travel the nation's 3.7 million miles of streets and highways.

A nine-million-car year is already a reality and a 12-million year is in sight within the decade. The truck industry, to which A. O. Smith is a major frame supplier, has been producing at a record rate, with 1968 breaking all previous records.

In 1967, the Automotive division accounted for about $154 million, or about 47 percent of A. O. Smith sales. The company began making frames (which are effective in providing today's smooth and quiet ride) in 1903. It created the first techniques for mass producing frames, and has made over 75 million for automobiles, more than any other manufacturer. The company also has facilities to produce specialized automobile bodies of plastic and steel.

There are about 500 presses in Milwaukee and over 100 at Granite City, ranging from 40 to 4,000 tons used in the fabrication of frames, parts, and wheel suspension control arms, another important product of this division. In support mainly of its automotive operations, A. O. Smith operates a large tool and die facility, which also manufactures tooling for outside firms on a contract basis.

A. O. Smith is also an important supplier of products for railroad freight cars, including hydraulic cushioning and shock absorbing devices, brake beams, hatch covers and Apex grating for running boards and end platforms. The anti-shock devices are used by more than 40 railroads and help to minimize damage to freight and equipment in transit (much of this damage comes from impact shock in switch yards).

The light weight of A. O. Smith reinforced plastic hopper car hatch covers improves weight distribution and load capacity to the advantage of both railroads and shippers.

A. O. Smith's participation in the petroleum industry has also been of long duration. It starts at the well and ends at the gas pump. Over the last 40 years, the company has produced more than $2 billion worth of products for the petroleum industry. These, which include oil well casing for deep wells, welded line pipe, valves, meters, electronic control systems, data-providing devices and gasoline pumps, literally bring the oil from the ground, carry it through processing, transmit it across the nation, measure it, and distribute it to the consumer.

The development by A. O. Smith of mass production methods for manufacturing large diameter steel pipe was a major factor in expanding the natural gas industry and the introduction of the nation's transcontinental pipeline system. Petroleum products, as well as natural gas, flow from the producing areas through these pipelines to the metropolitan centers throughout the nation. A. O. Smith's contributions to the industry include the development of cost-saving, higher-strength line pipe and mill methods for applying internal pipe coatings, an advantage of which is to improve gas flow efficiency.

The company also has led much of the development of high-strength oil well casing and remains the leading specialist in this field. Through the years, oil wells have progressed from very shallow depths until today they are drilled in excess of 25,000 feet. As these depths increased, it was necessary to increase the strength of casing used.

The ever-increasing demand for oil is requiring considerable expansion and improvement of terminal facilities, particularly in the Middle East and Africa, and has led to the widespread use of large-sized A. O. Smith meters in these areas.

While A. O. Smith's Meter Systems division is one of the world's largest producers of positive displacement meters for the petroleum industry, the division is expanding its activities in other products such as turbine meters and static charge reducers, and into serving other industries such as chemical processing.

The present market for Meter Systems products, both at home and abroad, totals about $100 million. The industrial process control field, growing at 12 to 15 percent annually and which includes the petroleum and chemical industries, represents a market totaling about $300 million per year for valves and meters.

The Smith Plastics division, Little Rock, supplies one of the company's newer products, glass fiber reinforced epoxy and vinylester pipe, for use in oil fields by the chemical processing industry, or in any process where highly-corrosive liquids are moved. Another growing use for Smith Plastics pipe is for insertion into older iron gas mains as an economical alternative to replacing the worn pipe.

While demand exists in the petroleum industry for A. O. Smith electronic control systems and data collection devices to measure and record fluid flow, extension of these systems for use in other applications, such as the chemical industry, is in process.

A. O. Smith sees great potential in the industrial and agricultural markets. Present products serving these markets include electric motors, electrical controls and Harvestore farm storage structures for automated feeding and storage of forage and grain.

Although A. O. Smith has been in the electric motor field for more than 20 years, in recent years it has enjoyed a strong upturn in the business because of its growing participation in the hermetic motor and related air movement motor markets. These motors are used in air conditioning and refrigeration equipment.

Because of its emphasis on quality of product, the company today is an important supplier to practically all of the air conditioning industry. Its motors are chiefly used for central control units in homes and commercial operations.

The market potential, according to industry figures, is dramatized by the fact that only 5 percent of existing homes have central air conditioning. These systems are now being installed in about 25 percent of all new homes and the market has been growing annually at an average of 20 percent over the last five years. In the commercial market, the annual increase has ranged from 12 to 15 percent.

Industry sources predict that by 1973, unitary air conditioning sales will approach 1.7 million units annually. In 1967, almost five million air conditioning units of all types were marketed, as compared with 4.7 million in 1966.

Other markets using A. O. Smith electric motors include the growing home dishwasher industry. The company also supplies, in substantial quantities, motors for jet and submersible pumps used in domestic water systems, and motors for the swimming pool, lawn sprinkler and home workshop markets. All of the motor markets served by the company require highly engineered motors designed to meet individual specifications of original equipment manufacturers.

A. O. Smith's Clark Control division is well-established as a supplier of electrical controls and systems required in the modern industrial plant and mill. Clark products include push buttons, starters, relays, switches, crane controls and motor control centers, all essentials in the continuing trend toward automation. Its engineered systems are used in large processing lines in steel, rubber, wire drawing and other manufacturing. The market for electrical controls is presently about $600 million, with an annual growth rate of from 6 to 7 percent.

One of the newer products being marketed by A. O. Smith is its patented steel powder. Automotive, appliance, office equipment and other manufacturers have found that precision parts can be produced economically from powder metal with little or no machining. A. O. Smith, within the last several years, perfected methods of producing high-density, molding-grade steel powder, welding-grade powder for the manufacture of electrodes, powder for cutting and scarfing metals, and high-purity ingots.

An indication of how widely powder metal is now used in many industries is the fact that today's automobile has about 100 parts made from powder metal. Total industry volume for powder metal is presently about 116,000 tons annually—100 percent higher than in 1963—and it is expected to double again by 1973.

By the year 2000, it is estimated that the world will have 7½ billion persons to feed. The outlook for the agricultural industry, which will have to satisfy this enormous requirement for food, is therefore, a bright one.

A. O. Smith's principal interest in the agricultural industry lies in beef and dairy farming. In 1967, production of all livestock rose to a new record index level of 115, compared with the 1957-1959 norm of 100. According to USDA estimates, there were 108.5 million head of cattle on U. S. farms and ranches as of January 1, 1967. Of this total, there were 15.2 million milk cows and heifers. Estimated cash value of the total was $16 billion.

A. O. Smith contributes importantly to this giant industry with its systems for storage and handling of grains and forage. More than 20,000 of its blue Harvestore glass-lined, controlled feed storage and handling structures are now a part of the rural landscape. They offer efficiencies for both the small family farmer and for large feed lot enterprises. In Harvestores, the feed crops maintain high nutritional value from the time of storage until use. Because of their preservative qualities, the Harvestore structures permit more efficient utilization of crops. Mechanical bottom unloading and, in larger applications, automated stock feeding systems, have made possible the automated barnyard.

Other company farm products using the A. O. Smith glass-fused-to-steel concept are the Liquanure liquid manure storage unit, which stores and preserves the fertilizer value of manure, glass-lined field spreaders and Water-trol glass-protected structures for erosion control and irrigation.

The company also produces glass-lined industrial bulk storage units similar to the Harvestore which handle fibrous, free and semi-free flowing materials, ranging from tobacco to flour. A salt-handling and storage system is also marketed for winter highway maintenance.

Water heaters have been among A. O. Smith's more profitable areas of operation since 1965. Manufacture is restricted to its own brand name products and sales are primarily to the replacement market. In the industry, approximately 4 million home water heaters are sold annually, 2.5 million of them replacement units.

Five major heater manufacturers produce over 60 percent of all residential water heaters. There are now substantially more than 40 million in use. A. O. Smith sales are rising at a rate greater than the industry average, and the company has produced nearly 10 million since 1939. Due to the high quality of its heaters, the company became the first in the industry to introduce a 10-year warranty.

In addition to the home products, A. O. Smith produces commercial water heaters for use in such places as hotels, schools, factories, car washes and swimming pools, and gas-fired hydronic boilers for home and commercial hot water heating systems.

A. O. Smith is the largest supplier of commercial water heaters, two-thirds of which are made by six manufacturers serving this $40 million market. About 115,000 units have comprised the industry

total through the first-half of 1968, while the hydronic heating and boiler industry has produced approximately 190,000 units valued at $52 million during the same period.

The use of hydronic heating equipment has more than doubled in the last 10 years, with about 75 percent going into homes and 25 percent into commercial establishments. The growth of hydronic residential heating is attributed by the industry to low prices, better equipment and the public's desire for more comfort and better performance.

Heated swimming pools are also in the growth picture. There were 130,000 in the U. S. in 1966. The industry projects to 1.3 million by 1980.

A. O. Smith was the first manufacturer to successfully produce and market a gas-fired, glass-lined water heater, introducing this concept in 1939. Today 95 percent of all hot water heaters are glass-lined, but the company has retained its original leadership in the market.

A. O. Smith continues to explore the use of new materials and the application of new concepts in water heating. The company has developed a prototype of the water heater of the future which combines the glass-fused-to-steel concept of interior lining with a new process of fusing an original-formula polyurethane—Capselite—to the steel tank to form the outer surface.

MANUFACTURING

Organization

A. O. Smith operations are structured into four major groups, each headed by a group vice president who is responsible to the president for the divisions within his individual group. These and other company activities are as follows:

Contract Products Group

Automotive division
Railroad Products division
Tubular Products division

Industrial Products Group

Clark Control division
Canadian Controllers, Ltd.
Electric Motor division
Electronic Systems division
Meter Systems divisions

Consumer Products Group

Consumer Products division
A. O. Smith Harvestore Products, Inc.

International & Special Products Group

International division
Powder Metallurgy division
Smith Plastics division

Other

Glass Coating Materials division
Product Service division

PRODUCTS AND LOCATIONS

Products and locations of the company, subsidiaries and affiliates, with trade marks italicized, are:

Executive Offices — Milwaukee, Wisconsin

Automotive — Milwaukee (3,593,839 sq. ft.)*; Granite City, Illinois (379,000 sq. ft.)

- Pressed-steel, all welded automobile and truck frames. Truck, trailer and bus frame side rails, reinforcements and cross members, rub rails. Front and rear wheel suspension parts.
- Heavy stampings and subassemblies; assembly facilities for riveting and welding, machining, heat treating and prototyping.
- Tools, dies, special machinery and materials handling equipment.

Automotive (Smith Plastics)

Ionia, Michigan
(813,254 sq. ft.)

- Metal and glass fiber reinforced plastic automobile and truck bodies and components.
- Other reinforced plastic moldings and assemblies.
- Glass fiber reinforced plastic hopper car hatch covers.

Railroad

Milwaukee
(3,593,839 sq. ft.)*

- Hydraulic cushioning devices for freight cars. The *Hydra-Buff* is used at the end of the car and the *CR Cushion Ride* sliding sill extends the length of the underside of the car. The company also modifies cars for installation.
- *Boxweld* brake beams, steel grating running boards, end platforms and brake steps, railcar sill extension weldments. Industrial grating and steps.

Tubular Products

Milwaukee
(3,593,839 sq. ft.)*

- Oil well casing from 7″ through 13⅜″ outer diameter for deep-zone drilling.

Houston, Texas
(325,350 sq. ft.)

- Welded line pipe, large diameters up through 36″, for transmission of crude oil, natural gas and refined petroleum products. (Manufactured by A. O. Smith Corporation of Texas.)

Military Ordnance

Waco, Texas
(127,300 sq. ft.)

- 750-pound bomb casings. (Manufactured by A. O. Smith Corporation of Texas.)

Electrical Controls

Cleveland, Ohio
(281,710 sq. ft.)

Lancaster, South Carolina
(170,000 sq. ft.)

Los Angeles, California
(46,000 sq. ft.)

Scarborough, Ontario, Canada
(73,000 sq. ft.)

- Clark Control custom-engineered automation and control systems for industrial production.
- Heavy duty controls for material handling, cranes and motor control centers, electric motor controls and starters, electronic and static controls, packaged speed controls, fire pump controls, contractors, limit switches, relays, push buttons, magnetic brakes and air valves.

Electric Motors

Tipp City, Ohio
(292,100 sq. ft.)

Mount Sterling, Kentucky
(243,800 sq. ft.)

- Fractional horsepower, general purpose motors up to 1 HP; jet and submersible pump motors up to 3 HP; explosion-proof motors; close coupled centrifugal pump motors and swimming pool filter pump motors.

- Hermetic motors up to 150 HP for refrigeration and air conditioning, and blower motors up to 3 HP, including capacitor start, split phase and permanent split capacitor types.

Electronic Systems

Menomonee Falls, Wisconsin
(20,000 sq. ft.)

- Key-control *Keycon* and card-control *Cardcon* automated fluid handling systems for petroleum loading terminals and fleet fueling, *Fleetcon*. They provide dispensing control, data acquisition and transmission, and invoicing. Another product is the A. O. Smith marketing system for service stations, which controls gallonage inventory and credit.

Meter Systems

Erie, Pennsylvania
(259,630 sq. ft.)

- Positive displacement meters for petroleum and other industrial fluids, 130 to 8,750 gallons per minute sizes, plus mechanical and electronic accessories. Turbine meters from ¾″ to 24″, with flow rates up to 60,000 barrels per hour and standard pressure ratings to 5,000 P.S.I. Static charge reducers and sensors.
- Service station, commercial and farm gas pumps; airport and marine fueling equipment.
- Hydraulic control valves, ⅜″ to 8″ size, in brass, steel, aluminum or cast iron, 150 to 300 P.S.I.

Water Heating

Kankakee, Illinois
(822,996 sq. ft. including Harvestore)

- *Permaglas* and *Glascote* glass-lined gas and electric residential water heaters.
- *Permaglas and Glascote* gas-fired, glass-lined storage type commercial water heaters, 50,000 to 500,000 BTUH input, 42 to 420 gallons per hour at 100 degrees temperature output. Units produce 180 degree sanitizing water.
- *Burkay* gas-fired copper coil commercial water heaters, 120,000 to 670,000 BTUH input. Six different systems available, 155 gph to 643 gph at 100 degree temperature rise output. Also available, a hot water supply boiler with 1,340,000 BTUH input, 1,286 gph output.
- A. O. Smith *Burkay* gas-fired copper-coil swimming pool heaters for small home pools to Olympic size pools, 120,000 to 670,000 BTUH input.
- Glass-lined storage tanks from 80-to-6,000-gallon capacity.
- Gas-fired copper hydronic boilers for home and commercial heating. Residential sizes from 80,000 to 200,000 BTU input, commercial from 300,000 to 1,340,000 BTU input.

Harvestore

Arlington Heights, Illinois
(Headquarters)

Kankakee, Illinois
(822,996 sq. ft. including Water Heating products)

Elkhorn, Wisconsin
(60,000 sq. ft.)

- Glass-lined *Harvestore* feed storage units of up to 25 feet in diameter and 65 feet in height, with capacities varying from 3,270 to 30,300 cubic feet. Accessories include feed troughs, catwalks, roof guard rails and filler pipes.

- *Permaglas* mechanized industrial bulk storage units. The units can handle fibrous, free and semi-free flowing materials from salt to wood chips. They have dry capacities of from 1,660 to 30,000 cu. ft. Six different types of unloaders are available.
- *Liquanure* glass-lined liquid manure storage units, pumps and glass-lined field spreaders.
- *Water-trol* modular glass-protected structures for erosion control and irrigation.
- Electronic platform scales.

Powder Metal — Milwaukee (3,593,839 sq. ft.)*

- *E-M-P* molding-grade steel powder for precision parts for automotive, appliance and other industries.
- Electrode-grade iron powders; metal powders for cutting and scarfing; high purity melting stock.

Smith Plastics — Little Rock, Arkansas (193,323 sq. ft.)

- *Red Thread, Green Thread, Polythread* and *Chemline* glass fiber reinforced epoxy and vinyl-ester pipe and fittings. Corrosion resistant for petroleum and gas installations; chemical processing, water and sewage applications.
- Glass fiber reinforced electrical and industrial products.

International — Stratford, Ontario, Canada (20,000 sq. ft.)

- *Burkay* commercial water heaters; *Permaglas* hydronic boilers.

Monterrey, Mexico (121,000 sq. ft.)

- Automotive frames (affiliate—Manufacturas Metalicas Monterrey, S.A.)

Dusseldorf, Germany (67,000 sq. ft.)

- *Harvestore* and *Permaglas* storage systems (affiliate — Mannesmann-A. O. Smith International GmbH)

Glass Coating Materials — Milwaukee (3,593,839 sq. ft.)*

Product Service — Chicago, Illinois; Atlanta, Georgia; Union, New Jersey (185,600 sq. ft. all locations)

* Includes all Milwaukee operations.

CORPORATE DATA

Directors

William O. Beers
President
National Dairy Products Corporation

F. Shepard Cornell
Retired Executive Vice President

Elisha Gray II
Chairman of the Board and
Chief Executive Officer
Whirlpool Corporation

Urban T. Kuechle
President

James D. Porter
Lawyer

Arthur O. Smith
President
Arthur Smith Industries

Lloyd B. Smith
Chairman and Chief
Executive Officer

Morris J. Vollmer
Vice President, Finance

Carlton P. Wilson
President
Robert W. Baird & Co.

Officers

General Office

Lloyd B. Smith
Chairman and Chief Executive Officer

Urban T. Kuechle
President

John H. Brinker
Vice President, Marketing

Allan C. Crane
Vice President & Controller

Thomas H. Creden
Vice President

John P. Diesel
Vice President, Manufacturing and Planning

Roy A. Dingman
Vice President, Corporate Relations

James N. Johnson
Vice President, Secretary &
General Counsel

Charles H. LeClaire
Vice President, Employee & Public Relations

Robert F. McGinn
Vice President, Research & Development

Robert A. Rietz
Vice President & Treasurer

Morris J. Vollmer
Vice President, Finance

Richard A. Wendorf
Vice President, Procurement

Donald L. Dunaway
Assistant Treasurer

John H. Lungren
Assistant Secretary &
Assistant General Counsel

J. Robert Mitchell
Assistant Treasurer

Officers

Operations

Henry O. Allen
Group Vice President,
Industrial Products

Milton E. Morgan
Group Vice President,
Consumer Products and
President, A. O. Smith
Harvestore Products, Inc.

Dennis J. O'Connell
Group Vice President,
International & Special Products

John R. Parker
Group Vice President,
Contract Products

James E. Borchert
Vice President,
Automotive

Paul R. Ellis
Vice President,
International

Wallace T. Halket
Vice President,
Consumer Products

Waldo W. Higgins
Vice President,
Tubular Products and President,
A. O. Smith Corporation of Texas

John M. Richardson
Vice President,
Electric Motor

John J. Stahl
Vice President and Vice President,
A. O. Smith
Harvestore Products, Inc.

David H. Stieber
Vice President,
Assistant General Manager, Automotive

Thomas A. Sullivan
Vice President,
Meter Systems

James W. Wolfe
Vice President,
Clark Control

Notes

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A. O. SMITH CORPORATION 1968 ANNUAL REPORT

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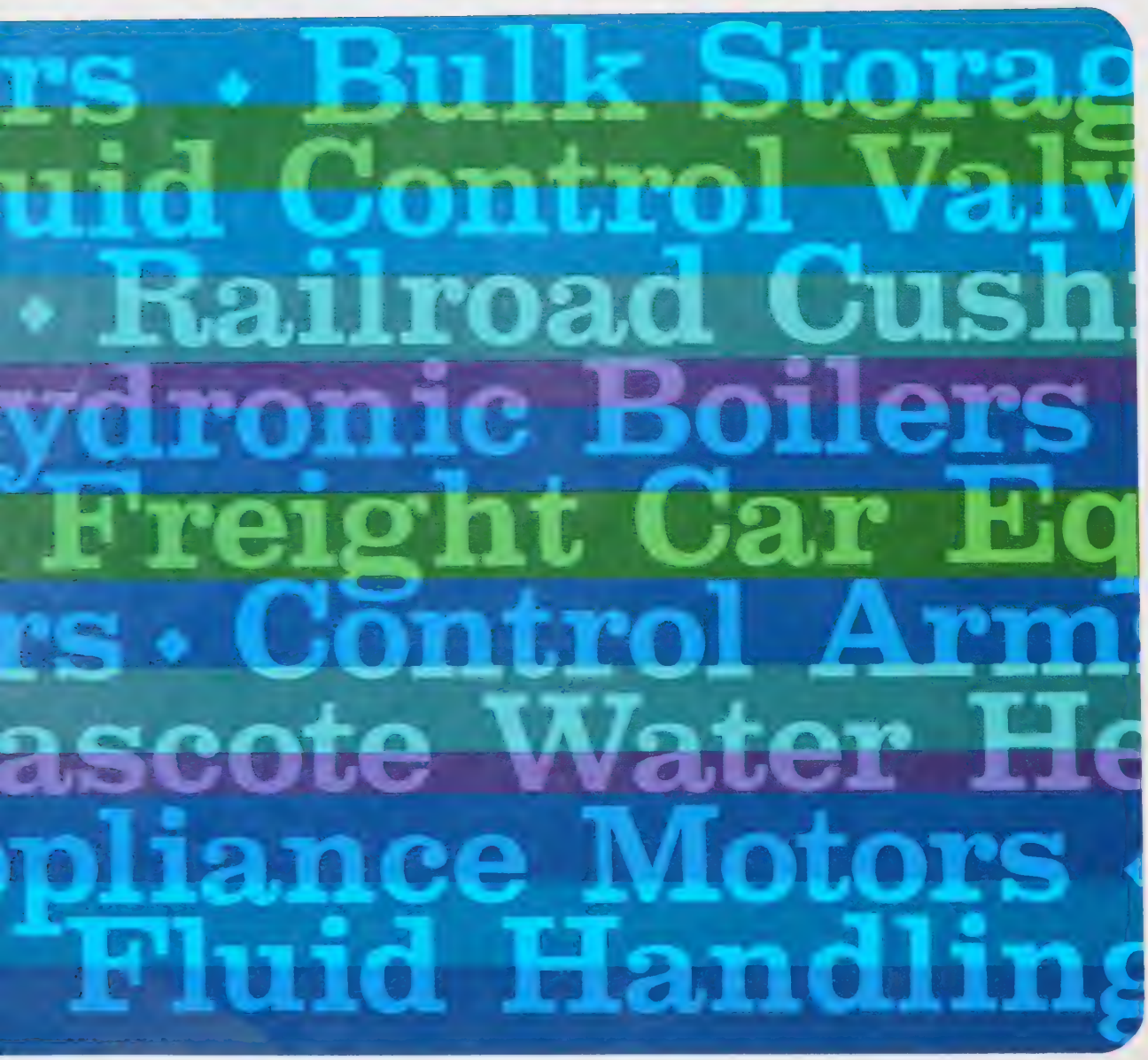
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Fluid Handling

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Products and Locations ..... Inside Back Cover

HIGHLIGHTS

for the year ended December 31, 1968

	1968	1967	% CHANGE
Net Sales	$372,797,673	$329,976,2[illegible]	[illegible]
Net Earnings	$ 11,642,613	$ 9,627,3[illegible]	[illegible]
Net Earnings Per Share	$4.68	$3.87	[illegible]
Cash Dividends Per Share	$1.30	$1.20	[illegible]

L. B. Smith *U. T. Kuechle*

In 1968 A. O. Smith continued its progress, with net earnings again increasing substantially. It was the fourth consecutive year of profit improvement, which reflects the continuation of programs directed toward achieving greater profitability, while effecting sound and orderly growth.

Earnings in 1968 increased 21% to $4.68 per share, compared with $3.87 in 1967. Sales rose to $373 million in 1968, or 13% over $330 million in the previous year.

In most areas of A. O. Smith's business, favorable results were recorded. It is significant that the advances made in 1968 were the result of actions taken primarily within the Corporation. While we expanded product lines — in some cases by adding entirely new products — we also further developed our markets, both domestically and internationally. The increase in sales volume does not represent any gains through acquisitions, although we do have a program of seeking acquisitions in compatible fields.

We are confident that some part of this improvement is the result of our constant attention to the planning process — both short and long range — with a purpose of influencing our future growth. We continue to refine our procedures and plans with a view toward meeting our primary profit objective — achieving a return on stockholders' equity at least equal to the average of manufacturing concerns.

To help accomplish this, many significant manufacturing and plant engineering revisions were made throughout the Corporation in 1968. These major changes, along with numerous facility improvements, have strengthened the operating divisions by providing more efficient production methods, while fulfilling cost reduction goals. Many such projects draw upon the computer capabilities of the Company, making changes possible in a minimum of time with the optimum in savings.

Our planning is also directed toward seeking ways to increase the growth potential of our existing businesses. For this reason, in November it was announced that we would begin discussions with Inland Steel Company regarding the possibility of a joint venture to include our glass fiber reinforced plastics and powder metal businesses. We see advantages in the mutual contributions that can be made in the development of these products, and promising futures are anticipated for each. An agreement has not been reached as yet, but discussions continue and progress is being made.

The potential for a rise in future earnings was the basis for a decision in 1968 to realign the line pipe and oil well casing manufacturing facilities. All line pipe production will be at the Houston mill of our affiliate, A. O. Smith Corporation Of Texas. As a result of this change, line pipe sales will not be reflected in A. O. Smith's 1969 statements because affiliate sales are not consolidated. This action, however, will have a long-range beneficial effect on our oil well casing operation, which is located at Milwaukee, as well

New directors: *Carlton P. Wilson* *William O. Beers* *Elisha Gray II*

LETTER TO STOCKHOLDERS

as the line pipe business at Houston.

A coordinated program of market-oriented divisional and corporate research and development provides the guidelines for a continuing and extended technical effort. During the past year, conclusive evidence of the program's effectiveness was demonstrated in the accomplishment of a variety of short and long-range projects. These include the introduction of new grades of powder metal, new glass coatings, sophisticated solid state controls and application of integrated circuits to electronic apparatus, and new product concepts for water heaters.

Throughout the Corporation, management is constantly seeking methods of improving profitability and performance. In 1968, the Company conducted its first management audit program, which was designed to evaluate performance in 10 functional areas within each division. Appraisals were made in such functions as marketing, engineering, quality assurance, manufacturing, controllership, industrial relations and purchasing. The ability to measure performance is particularly important in a decentralized company such as ours, where a relatively high degree of authority is delegated to managers at different levels in the organization. Although it has been customary in American business to rely on numerical values and controls for performance evaluation, we have found that total dependency on this method often results in discovering problems too late for responsive solutions. We expect the audit program to enable us to identify such problem areas early and permit timely, corrective action.

As an aid to attaining our goals, A. O. Smith emphasizes the development of managers at all levels of the organization as necessary to ensure an effective management group. Consequently, a president's management development committee was organized in 1968 for the purpose of following the progress of each manager and his organization. Its objective is to maximize the Company's management talents and to assure that experience and skills are available to successfully manage the Company now and to meet the requirements of the future.

Our organization was further strengthened in 1968 when three new directors joined the A. O. Smith board. We are fortunate to have as directors Elisha Gray II, chairman of the board and chief executive officer of Whirlpool Corporation; William O. Beers, president of National Dairy Products Corporation; and Carlton P. Wilson, president of Robert W. Baird & Co., each of whom brings with him a great amount of experience and ability.

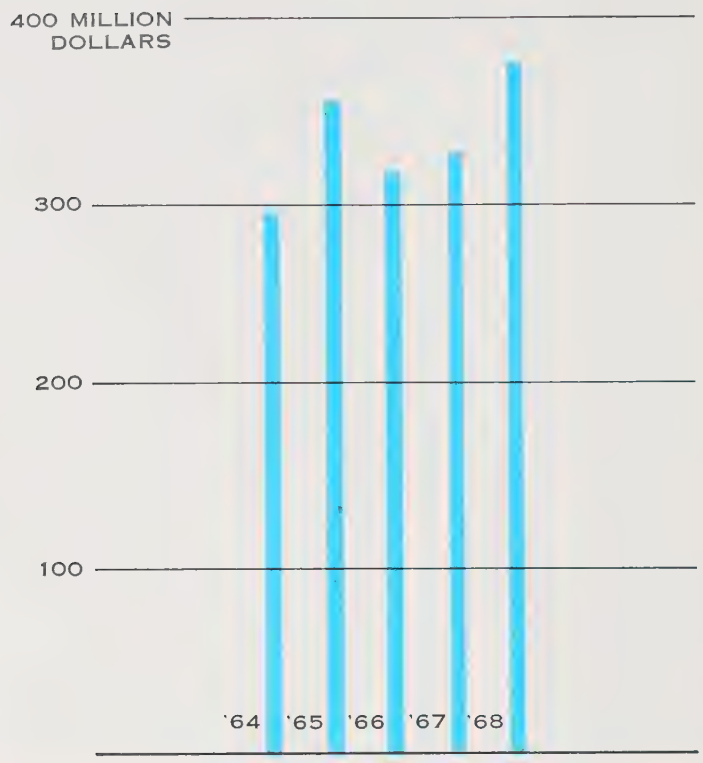
As we view the economy and A. O. Smith's prospects for the next 12 months, we look forward to the fifth consecutive year of increased profits.

L. O. Smith

Chairman and Chief Executive Officer

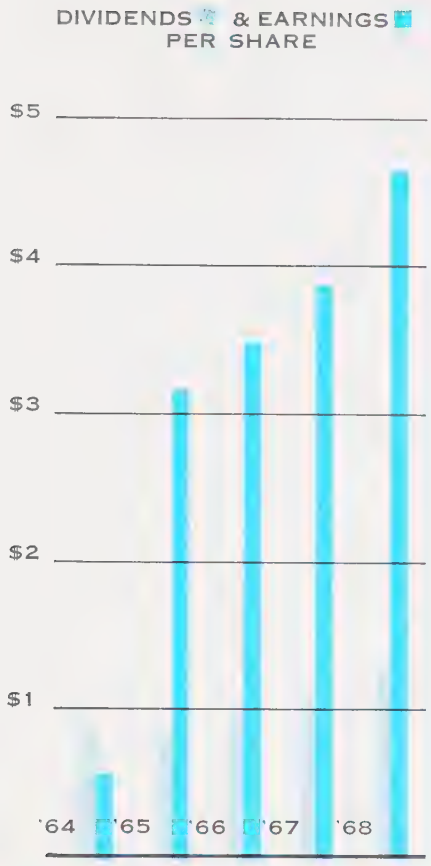
President

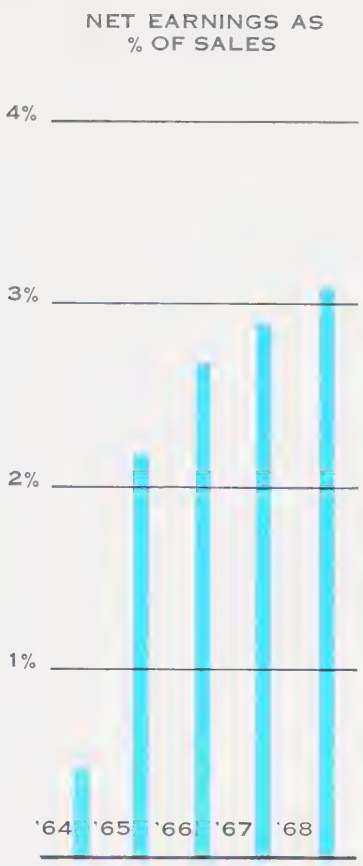
SALES

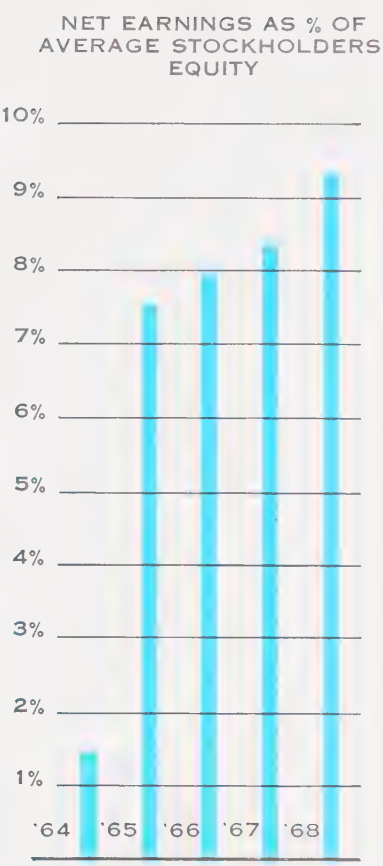


FINANCIAL REVIEW

SALES VOLUME BY PRODUCT LINE	1968 $MILLIONS	%	1967 $MILLIONS	%
Automotive	$171	46%	$154	47%
Tubular Products	51	14	34	10
Meter Systems	20	5	16	5
Electric Motors	34	9	32	10
Electrical Controls	25	7	29	9
Consumer Products	28	8	25	7
Harvestore	25	7	24	7
	$354	95%	$314	95%
All Other	19	5	16	5
Total	$373	100%	$330	100%







SALES Sales in 1968 were at a record high, reaching $372,797,673, an increase of 13% over the 1967 total of $329,976,263. Most of the increase was due to higher sales in the Automotive and Tubular Products divisions. However, good sales gains were also achieved in the Meter Systems and Consumer Products divisions. A general decrease in demand for electrical control products caused sales to decline in 1968 in the Clark Control division. Sales of the subsidiary, A. O. Smith Harvestore Products, Inc., and the Electric Motor division increased slightly over 1967. The tabulation at left shows a comparison of sales by principal product lines for the years 1968 and 1967.

Sales of A. O. Smith Corporation Of Texas, an affiliate company, totaled $94,186,202 in 1968, compared with $94,461,163 in 1967. Line pipe sales amounted to $41,068,215, and sales of bomb casings were $53,117,987. These sales are not consolidated in A. O. Smith's statement.

EARNINGS Earnings per share of common stock in 1968 were up 21% to $4.68, compared with $3.87 in 1967. Earnings per share figures were computed on average shares outstanding each year. The return on average stockholders' equity was 9.4% in 1968, compared with 8.4% in 1967. Net earnings in 1968 were $11,642,613.

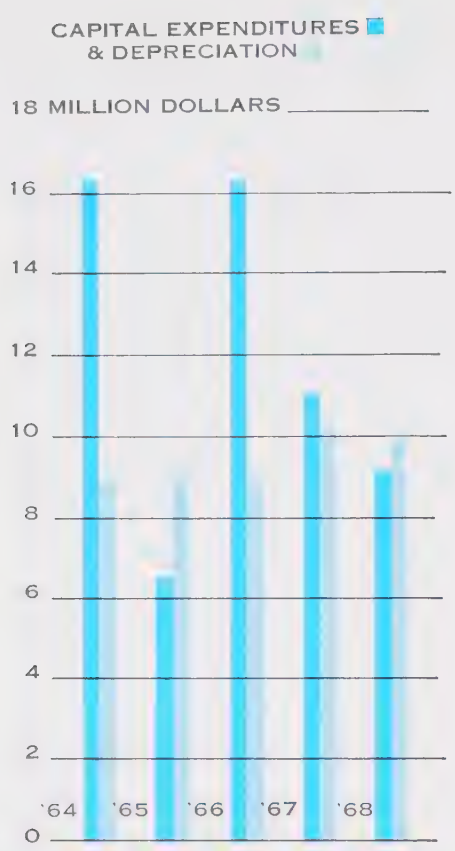
As a result of the federal income tax surcharge, earnings in 1968 were reduced $1,083,000, or 44¢ per share.

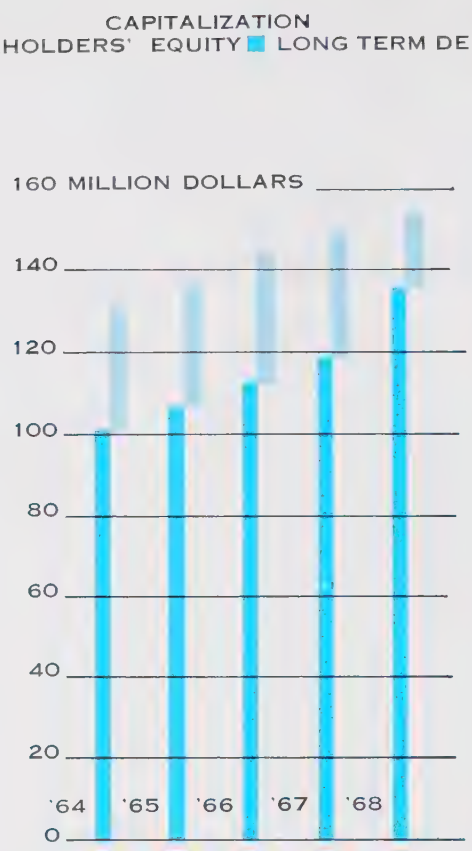
Constant levels of production, continued operating efficiencies and cost reduction programs in most divisions during the year caused profit from operations before taxes to reach $22,119,702, or $10,567,653 higher than in 1967.

DIVIDENDS Cash dividends in 1968 totaled $3,198,167 and represented 27.5% of earnings. Beginning with the dividend payable August 15, 1968, the board of directors increased the quarterly dividend from 30¢ to 35¢ per share. Cash dividends totaling $1.30 per share were paid in 1968, as follows:

Payment Date	*Amount Per Share*
February 15	$ .30
May 15	.30
August 15	.35
November 15	.35
Total	$1.30

This was the third consecutive year in which cash dividends were raised. The total dividends per share in 1967, 1966 and 1965 were $1.20, $1.15, and $1.00, respectively. Also, during the year the directors announced their intent to discontinue stock dividends for the foreseeable future. The Company issued 5% stock dividends in 1966, 1967 and 1968.





WORKING CAPITAL Working capital totaled $84,739,068, compared with $79,725,035 at the end of 1967. A summary of the changes in working capital during 1968 is shown on page 24.

PLANT AND EQUIPMENT As of December 31, 1968, the total cost of plant and equipment was $160,457,223. Net plant and equipment, after allowance for depreciation totaling $96,441,739, was $64,015,484. Capital expenditures for the year were $9,258,452.

LONG-TERM DEBT AND STOCKHOLDERS' EQUITY The capital structure, consisting of $28,481,000 long-term debt and $127,955,825 of stockholders' equity, totaled $156,436,825 as of December 31, 1968. During the year, long-term debt was reduced $1,867,000. Long-term debt represented 18% of the total capital employed, compared with 20% at the end of 1967.

Early in 1968 A. O. Smith entered into a new revolving credit agreement with a group of major U. S. banks providing for $20,000,000 in borrowings at the prime interest rate plus ¼ of 1%. The agreement expires on June 30, 1971, but contains an option whereby the Company can convert any of the revolving credit notes into four-year term promissory notes. No borrowings were made under this agreement during the year.

At the end of 1968, shares of common stock outstanding totaled 2,490,442. During the year, 116,935 new shares of common stock were issued as a result of a 5% stock dividend, and 1,504 shares were sold to employees who exercised stock options. Also, 4,378 shares of treasury stock were issued to employees who exercised stock options in 1968. As of December 31, 1968, there remain 14,919 shares of treasury stock reserved for stock options granted under a 1962 restricted stock option plan.

RETIREMENT PLANS The Company and its consolidated subsidiaries have noncontributory retirement plans covering substantially all employees. The cost of these plans was $3,460,000 in 1968, compared with $3,500,000 in 1967. Retirement plan costs in both years include current cost plus interest on unfunded prior service cost for all plans. In the cost of two plans covering hourly employees, the actuarially computed value of vested benefits under the plans exceeds the assets of the related trusts. For these two plans, the Company has elected to provide for such excess over a period of 40 years.

OPERATIONS SUMMARY

The automotive industry, to which A. O. Smith is a major supplier of passenger car and truck frames, enjoyed one of its best years in 1968. A. O. Smith participated in this industry rise, and maintained its lead over its nearest direct competitors in the passenger car and truck frame businesses. Leadership in these highly competitive markets was achieved and has been retained on the basis of advanced manufacturing technology and a strong customer-oriented product engineering and development capability. Continued growth in the passenger car and truck markets is seen, with frame use being extended despite impending introduction of the small car which, by virtue of its size, will probably be of unit construction.

With a number of plant and engineering changes, the Automotive division, Milwaukee, increased its production capacity while improving manufacturing efficiencies. Also, an expansion program at Manufacturas Metalicas Monterrey, S. A., a 40%-owned Mexican automotive affiliate company, in 1968 more than doubled the size of that operation to 121,000 square feet to accommodate additional business expected in the next several years. Manufacturas Metalicas Monterrey produces passenger car and truck frames and components.

WATER HEATING The Consumer Products division, with its line of water heating and hydronic heating equipment, is growing faster than the industry as a whole. This excellent performance is largely attributed to an expanded and improved distribution system, which has resulted in greater penetration of the water heater market. The largest part of A. O. Smith's domestic water heater sales are to the replacement market, which provides a stable base on which to operate the business. Through its systematic development program, the division, in 1968, continued to broaden its product line and to explore the use of new materials and the application of new concepts in water heating.

Sales by the subsidiary, A. O. Smith Harvestore Products, Inc., have nearly doubled in the last five years. Harvestore, with its revolutionary storage and bottom-unloading system, is contributing to many innovations in the raising of livestock. The subsidiary has benefited in the last several years, in part, from the broadening trend toward early harvesting. This results in corn with high moisture content, and the Harvestore system of storage offers farmers a desirable alternative to costly mechanical drying of corn and conventional storage methods. Harvestore's management has improved operating efficiencies, thereby increasing the potential for consistently greater profits.

TUBULAR PRODUCTS Contributing to the overall increase in 1968 sales was a $28 million order for line pipe received by the Tubular Products division in Milwaukee — an unusually large one for that location. The 500 miles of 34-inch diameter pipe was used in a crude petroleum line extending from Superior, Wisconsin, to the Chicago area, which is in a region where most pipelines are complete and new construction is diminishing. The shift of all future line pipe production to the A. O. Smith Corporation Of Texas mill in Houston — which is close to the oil and gas centers of America — will effect more efficient utilization of that mill. The affiliate's bomb casing plant in Waco, Texas, performed well in 1968. Additional government contracts for 750-pound bomb casings will extend production through most of 1969.

Demand for A. O. Smith's high-strength oil well casing continues at a steady rate. While fewer wells were drilled during 1968, greater well depths — requiring high-strength casing — acted as a compensating factor. During the year, the major petroleum companies invested $1.2 billion for offshore leases. The proving up of these leases within the next few years will offer a continuing market for oil well casing.

Recently, A. O. Smith's Meter Systems division has advanced quite rapidly in both volume and profits. Much of this is due to development of overseas markets, where the requirement for metering is accelerating because

of the importance of petroleum as a source of tax revenues. The meter and valve market in the domestic petroleum industry has had a modest expansion rate. More rapid growth is anticipated in the process control market of the chemical industry, where A. O. Smith's newly-designed line of meters and valves will apply. Entry into this market area will be assisted by the Company's electronic capability, already employed successfully in data logging and control of petroleum terminal operations.

ELECTRIC MOTORS A. O. Smith's electric motor business has enjoyed a rapid growth rate as a result of a successful policy of designing and producing motors for specific applications, particularly in growing markets. While the increase in this business slowed somewhat in 1968, the factors that contributed to this condition are considered temporary. In addition to hermetic and blower motors for air conditioning and commercial refrigeration equipment — one of the broadest lines in the industry — other motors are produced for the home dishwasher, domestic water pumping system, swimming pool, lawn sprinkler and home-workshop tool markets.

The Electric Motor division in 1968 instituted plant and engineering changes at its Tipp City, Ohio, and Mount Sterling, Kentucky, plants. Two additions to the Tipp City facility were completed in 1968 — the 10th and 11th since it was built by A. O. Smith in 1950. The Mount Sterling facility continued to improve its production capacity by installing two new hermetic motor assembly lines and related equipment. A new process of bonding motor stators with epoxy resin was developed by A. O. Smith, augmenting the division's conventional method of welding stators. Stator bonding provides for greater mechanical rigidity and better electrical performance.

During the year, efforts at the Clark Control division were centered on new product development and the marketing function. While Clark experienced a decline in order volume — a reflection of conditions in the electrical control industry — the division has begun to successfully market a new solid state drive system for controlling industrial processes. This answers an important industry need and should enhance Clark's future performance.

That segment of the Smith Plastics division which primarily serves the transportation industry operated at a below-satisfactory level in 1968. A. O. Smith has been active in the application of glass fiber reinforced plastic to the structural and surface parts of specialty and low-production vehicles. This is a volatile section of the market, but one that has potential for rapid growth and substantial technological change. Every effort is being made to attain greater commercial success in this field, and progress is being made toward this objective.

There has been considerable achievement in developing that part of Smith Plastics which produces glass fiber reinforced plastic pipe and fittings for the petroleum, gas and chemical markets. This product has many applications where corrosion is a problem and ease of handling is important.

POWDER METAL An expansion was started in the powder metal facility at Milwaukee, which will double capacity for A. O. Smith patented steel powders from 25,000 to approximately 50,000 tons annually. The expansion includes a new annealing furnace and finishing and blending machinery, as well as new mechanized material handling equipment to take care of the increased production volume. A. O. Smith has been in the molding powder business since 1966 and produces the patented steel powder for the manufacture of precision parts. This material is rapidly finding numerous applications, including parts for office machines, appliances and automobiles. A. O. Smith has recently licensed the right to manufacture and sell its steel powder in Japan to Kobe Steel Co., one of that nation's largest, diversified steel producers.

To achieve more efficient use of existing space and machinery at the Elkhorn, Wisconsin, plant, production of a new cushioning device — known as the Hydra-Buff TC-15 — for the Railroad Products division was introduced there in December. The Elkhorn facility, which also is used for the production of unloaders and accessories for industrial and agricultural storage and handling equipment of A. O. Smith Harvestore Products, had been expanded in 1966 from 30,000 to 60,000 square feet.

EMPLOYEE RELATIONS In 1968 labor agreements were negotiated with 19 of the 29 collective bargaining units of A. O. Smith Corporation, its subsidiaries or affiliates. Seventeen agreements were for a three-year duration and two for two years each. Included in the three-year agreements were contracts with seven bargaining units which represent 6,000 union employees of A. O. Smith's Milwaukee Works — the Company's largest operation. Before agreements were reached, strikes resulted at two locations, Granite City, Illinois, and Houston, Texas, for 12 and 3 weeks, respectively. While the Granite City strike hampered performance of our Automotive division in the first quarter, the Houston strike had negligible operational impact on our affiliate, A. O. Smith Corporation Of Texas, because it coincided with the seasonal suspension of line pipe production. At year's end, negotiations were in progress at the newly-unionized Clark Control plant in Lancaster, South Carolina. A strike which began on expiration of the contract on December 12 at the Mount Sterling, Kentucky, electric motor plant was settled January 6, 1969.

In addition to continuing to actively offer employment opportunities to all persons, A. O. Smith in 1968 participated in the National Alliance of Businessmen's JOBS (Job Opportunity in the Business Sector) program. The Company has been successful in training members of the "hard-core" unemployed for jobs in its Milwaukee plant.

A highly diversified manufacturer, A. O. Smith plays a vital role in many markets, providing products for farm, home and industry. The Company's products can be found in almost every phase of day-to-day life — from the frame beneath the family car, to the service station unit that pumps gas into its tank; from the line pipe that carries natural gas cross-country, to the water heater in many homes and businesses.

Whether it is motors for air conditioning equipment, Harvestores for feeding livestock, electrical equipment for controlling industrial processing systems, or any of the many other A. O. Smith products, they are all very much involved in modern living.

AUTOMOTIVE

Whether it is a trip to a shopping center, to work or on a cross-country vacation, America is a nation on wheels. Today, 101 million cars, trucks and buses travel the nation's 3.7 million miles of highways and streets. With the automobile changing from a luxury to a necessity, the automotive industry itself has become a dominant influence upon the economy.

A. O. Smith has been an active participant in this automotive growth, almost from its very inception, and is recognized as the largest independent manufacturer of automotive frames. The Company began making frames—which are effective in providing today's smooth and quiet ride — in 1903, and to date has made more than 75 million for automobiles.

Continuing A. O. Smith research includes the development of mathematical models and advanced vibration studies — through the use of an electronically controlled ride simulator/frame fatigue machine — as well as cooperative research programs with its automotive customers. This has helped maintain A. O. Smith's position in automobile and truck frame design and development.

METER SYSTEMS

A barrel of south Louisiana crude oil, arriving at an Illinois refinery via the new Capline pipeline system, is valued at more than $3. A million barrels, which is what Capline will ultimately deliver in a day, would, therefore, be worth more than $3 million. A measurement error of one-tenth of one percent in metering that crude could cost as much as $3,000 in a single day. That calls for accurate, dependable meters. A. O. Smith positive displacement meters were selected for custody transfer on Capline (pictured) — the biggest petroleum pipeline in the Western Hemisphere, which began moving crude to the Midwest in August, 1968.

Capline is owned by seven pipeline companies. With many different firms putting crude oil into the line in Louisiana and Mississippi and taking it out in Illinois, reliable measurement and accounting is all-important. A. O. Smith meters perform this duty.

Changing patterns in world oil production and distribution, such as with Capline and the development of rich, new fields in North Africa and the Middle East, have opened new markets for A. O. Smith meters, valves, strainers and other accessories crucial to the transport of oil from the well to the consumer.

With its custody transfer meters, its valves, its automated security and data acquisition systems for petroleum terminals and bulk plants, its automated fleet fueling systems and service station pumps, A. O. Smith is, in a sense, a "cash register" for the petroleum industry.

ELECTRIC MOTORS

From the instant each newborn child comes into the world, he is dependent on the blanket of air that forms his environment.

Increased concern with the pollution of this air has created an awareness of the equipment used to heat, cool, clean and move it. Such devices serve various structures ranging from the "clean rooms" of science and specialized industry, through the special sterile areas of hospitals and into the home itself.

Custom-engineered electric motors have been made by A. O. Smith for more than 20 years, with recent emphasis on supplying blower and compressor motors to manufacturers of air conditioning and commercial refrigeration equipment. These original equipment manufacturers depend on A. O. Smith's reliable hermetic motors, which are sealed into compressors for life.

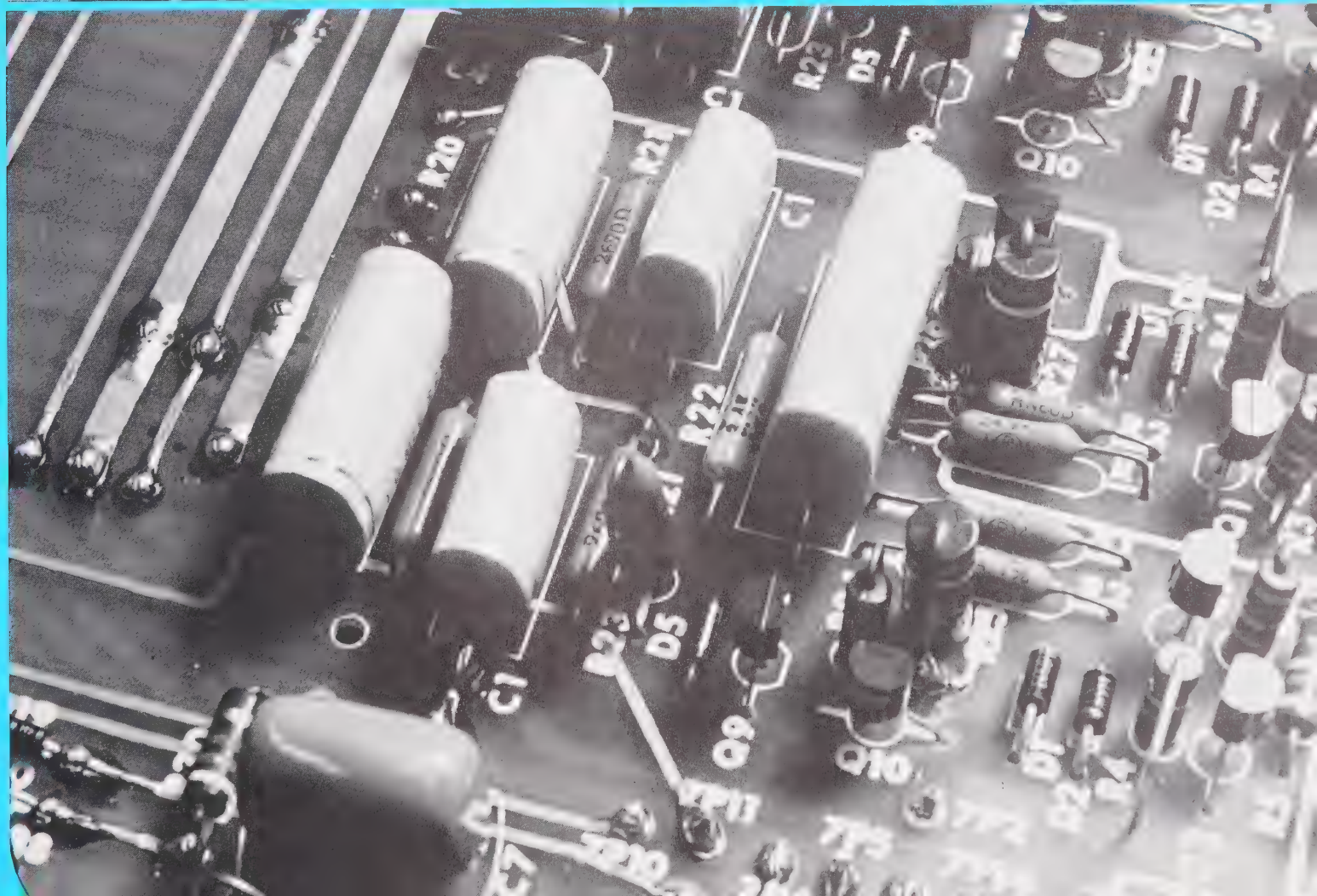
A. O. Smith's Electric Motor division covers markets such as the expanding home dishwasher industry and supplies jet and submersible motors used in various water systems, including swimming pool filter pumps. It also produces the explosion-proof models required for critical applications such as gasoline pumps, and offers other versions for use in power tools.

ELECTRICAL CONTROLS

Hundreds of tiny transistors and electrical components are wired together to form an intricate and detailed pattern on a printed circuit board that is used to control the power of hundreds of tons of heavy machinery at numerous industrial installations. The circuit board, about the size of a standard checkerboard, is part of Clark Control division's newly-developed solid state drive system. The new packaged drive is about the size of a 30-inch kitchen range and replaces machinery that typically weighs about two tons and takes up 25 square feet of floor space.

Through Clark Control, A. O. Smith has become a major supplier of electrical equipment used in regulating and controlling entire production lines and industrial processing systems in automobile, steel and other industries. A. O. Smith research, to meet industry demands, made a number of contributions and technological advancements that have improved electrical controls, such as the solid state drive system.

In addition to the custom-designed and built control systems for industrial, mill and material handling equipment, Clark Control products include contactors, starters, limit switches, relays, pushbuttons, magnetic brakes and air valves, and fire pump controls.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R4

HARVESTORE

American agriculture is changing. Modern machinery has improved production yields and farming methods to the point where more and more people are being provided for by fewer — but larger — farms. With constantly increasing costs, the modern farming trend is toward specialization, automation and mechanization. And, A. O. Smith Harvestore Products, Inc., a subsidiary, has become a leader in the industrialization of farming.

Harvestore feed storage and processing systems offer a mechanical means for storing and handling livestock feed. These glass-lined structures provide the farm businessman with the most advanced technology for permitting more efficient utilization of crops, which maintain high nutritional value from the time of storage until use.

The subsidiary's electric-powered bottom unloader has made it possible to completely mechanize the blending and feeding of forage and grain to livestock in modern feedlot systems. The Harvestore's top-load, bottom-unload feature allows the farmer to fill in one forage crop on top of another, season after season.

The subsidiary also produces Permaglas glass-lined industrial bulk storage units similar to the Harvestore. Permaglas structures handle fibrous, free and semi-free flowing materials, ranging from tobacco, coal and wood to meat products and popcorn. A Permaglas automatic salt-handling and storage system is also marketed for winter highway maintenance.

CONSUMER PRODUCTS

Water for washing cars, for shaving or showering, for heating homes or swimming pools or for washing clothes or dishes must be heated. As the demand for more hot water — and the demand for more efficient equipment to heat that water — grows, A. O. Smith's Consumer Products division continues to occupy a position of leadership in the industry.

By designing and producing better equipment for heating water for just about every purpose, A. O. Smith in the last four years has increased its water heater sales at a more rapid rate than the industry as a whole, and has gained in world markets. Better marketing techniques, better production methods, and a strong research and development program have contributed to this progress.

For example, in 1968 A. O. Smith introduced a new electric residential water heater with a single, low watt-density element that performs better and requires less maintenance than the traditional two, high watt-density elements. The Company also introduced its first electric water heater, engineered from the ground up, specifically for commercial use.

A. O. Smith recently displayed a prototype of the gas or electric water heater of the future (pictured), which combines the glass-fused-to-steel concept of interior tank with a new process of fusing an original formula polyurethane — Capselite — to the steel tank to form the outer surface. This will replace the steel outer jacket and conventional insulation material, and it will afford the entire heater unique damage-resistance and design characteristics not now possible.

A.O. Smith
HARVESTORE

CAR WASH

POWDER METAL

The welding of parts made from powder metal is now possible, opening new horizons for powder metallurgy and additional market areas for A. O. Smith's newest business — the production of steel powder for fabrication of parts by pressing instead of machining. Until the advent of A. O. Smith's powder metal, made from steel instead of mill scale and sponge iron, welding or forging of powder metal parts was virtually impossible because of low density and porosity.

A. O. Smith research has proven that parts pressed from steel powder can be welded to similar parts, or to parts made of wrought steel, widely broadening the application of powder metallurgy. In addition, parts preformed from steel powder can be finished by forge hammer to a density equal to wrought steel.

Using forging techniques with A. O. Smith alloy steel powders, such heavy-duty parts as pinions, ring gears and connecting rods for automobiles or power garden and lawn tools are nearing production.

In preparation for this rapid growth in the market, A. O. Smith is doubling its production capacity for steel powder — from 25,000 to approximately 50,000 tons annually.

FRP PIPING SYSTEMS

Handling crude in the oil field and water in a leading zoo's new aquarium are samples of the many diverse and unique applications being found for the glass fiber reinforced epoxy product lines of A. O. Smith. Filament wound pipe and fittings made of this material also form a key component in the chilled water system at the heart of the world's largest outdoor air conditioning network at Astroworld, cooling visitors to this new amusement and entertainment center at Houston.

High corrosion resistance of the same type pipe merited its use for water lines in the modern aquarium, where simulation of the Amazon River water's exact composition — to accommodate species found in that habitat — formed one of many critical situations demanding a pipe that does not contaminate what it carries.

The Smith Plastics division's Red Thread pipe is rapidly becoming a standard item in the petroleum production field and, along with the division's other types of piping, has been found to be a thoroughly competent performer in the chemical processing, gas distribution, electrical and other industries. Strength, light weight and installation ease are other attractive characteristics of the full range of glass fiber reinforced epoxy and vinylester piping systems which have been pioneered by A. O. Smith.

TUBULAR PRODUCTS

Reflecting the growth of the nation's energy requirements, the petroleum and natural gas industries continue to expand their facilities. A. O. Smith and its affiliate, A. O. Smith Corporation Of Texas, have long participated in this development by supplying large diameter line pipe and oil well casing.

Over 55,000 miles of large diameter pipe — enough to encircle the earth more than twice — have been produced by A. O. Smith and its affiliate. A. O. Smith line pipe is part of nearly every major pipeline. The Company's research has made important contributions to this industry — particularly with manufacturing and welding processes. While many of the primary networks have been completed and the areas of greatest line pipe demand have changed, supplementation of local line capacity by the addition of parallel segments continues.

Whenever the search for oil requires deep well drilling, particularly from offshore platforms, it is likely that A. O. Smith high-strength casing is being used. Through the years, oil wells have progressed from very shallow depths until today they are drilled in excess of 25,000 feet. As these depths increased, it was necessary to increase the strength of casing used to protect the wells.

REINFORCED PLASTICS

Capabilities of the Smith Plastics division at Ionia, Michigan, include a fine blend of raw material technology plus manufacturing skills. This combination is helping to keep A. O. Smith in the forefront of progress on glass fiber reinforced plastic research and development for the growing transportation field, as well as for many other applications in other markets.

Product engineering, prototype creation and plastic and steel fabrication and assembly work are part of the full-service manufacturing expertise provided by A. O. Smith.

Railroad hopper car hatch covers and crash helmet liners are typical of the ever-growing list of reinforced plastic moldings and assemblies which have been produced at Ionia. Concentration is on the mass production of auto bodies, truck cabs and other components, including many of the body styling elements that help to distinguish the new version of the Shelby Cobra sports cars assembled there.

A doubling by 1970 of the estimated 127 million pounds of glass fiber reinforced plastics used in 1968 by automobile and truck manufacturers has been forecast by industry sources.

RAILROAD PRODUCTS

Transporting great quantities of products and commodities from producer to consumer is a bigger job today than it has ever been before. The railroad industry, which shares prominently in this mammoth task, needs modern, rugged equipment to efficiently do its part. A. O. Smith has been a supplier of such equipment for more than a quarter century.

Included in the Company's products for railroad freight cars are its glass fiber reinforced plastic hopper car hatch covers — Hopper Toppers — (pictured). Since their introduction in 1965, these strong, corrosion-resistant covers have been installed on more than 18,000 freight cars. The lightweight covers, while allowing railroads and shippers to carry more freight, lower the center of gravity to aid car stability. A. O. Smith has also developed glass fiber reinforced plastic door and wall liners for refrigeration cars.

The Company's Railroad Products division was the first railway supplier to offer both end-of-car and center sill hydraulic cushioning units which help minimize damage to freight cars and lading by absorbing impact shocks during switching. Steel running boards (also shown), end platforms and brake beams — the division's 700,000th Boxweld brake beam was shipped in 1968 — are other products.

A. O. SMITH
CORPORATION

CONSOLIDATED STATEMENT OF EARNINGS AND RETAINED EARNINGS

	Years ended December 31. 1968	1967
REVENUES:		
Net sales	$372,797,673	$329,976,263
Other income — net, including equity in earnings of finance subsidiary and affiliated companies (50% owned)	3,380,969	5,427,436
	376,178,642	335,403,699
COSTS AND EXPENSES:		
Cost of goods sold	323,231,130	292,966,639
Selling, general and administrative	27,446,841	25,457,575
Interest	1,758,058	1,852,088
	352,436,029	320,276,302
EARNINGS BEFORE INCOME TAXES	23,742,613	15,127,397
PROVISION FOR INCOME TAXES (Note 6)	12,100,000	5,500,000
NET EARNINGS (per share — 1968, $4.68; 1967, $3.87)	11,642,613	9,627,397
RETAINED EARNINGS:		
Balance at beginning of year	$86,311,981	$82,489,834
	97,954,594	92,097,231
Deduct:		
Cash dividends, per share — 1968, $1.30; 1967, $1.20	3,198,167	2,808,416
5% stock dividend (Note 4)	4,624,669	2,976,834
	7,822,836	5,785,250
Balance at end of year (Note 5)	$ 90,131,758	$ 86,311,981

See accompanying notes.

A. O. SMITH CORPORATION

ASSETS

December 31,

	1968	1967
CURRENT ASSETS:		
Cash	$ 9,400,477	$ 6,300,567
Marketable securities, at cost (approximates market)	19,305,399	1,998,931
Receivables	42,765,820	41,597,739
Inventories, at lower of cost (first-in, first-out) or market	61,150,563	65,478,758
Prepaid expenses	2,021,570	1,900,015
Total current assets	134,643,829	117,276,010
OTHER ASSETS:		
Investments in and advances to unconsolidated finance subsidiary and affiliated companies (50% owned) (Note 1)	7,633,782	6,122,227
Prepaid pension costs (Note 2)	2,700,000	—
Other, at cost or less	2,683,410	2,878,001
Total other assets	13,017,192	9,000,228
PLANT AND EQUIPMENT, AT COST:		
Land	2,997,793	2,999,860
Buildings (less accumulated depreciation, 1968 — $23,311,136; 1967 — $21,976,154)	20,152,574	20,642,462
Equipment (less accumulated depreciation, 1968 — $73,130,603; 1967 — $69,409,070)	40,865,117	42,012,694
Net plant and equipment	64,015,484	65,655,016
	$211,676,505	$191,931,254

See accompanying notes.

CONSOLIDATED BALANCE SHEET

LIABILITIES AND STOCKHOLDERS' EQUITY

	December 31, 1968	1967
CURRENT LIABILITIES:		
Accounts payable and accrued liabilities	$ 38,496,976	$ 33,507,488
Income taxes	9,540,785	790,487
Current portion of long-term debt	1,867,000	3,253,000
Total current liabilities	49,904,761	37,550,975
LONG-TERM DEBT:		
4¾% notes payable due $1,600,000 annually — final maturity July 1, 1983	22,400,000	24,000,000
Lease purchase obligations expiring 1983 to 1986, interest rates 4% to 6% per annum	6,081,000	6,348,000
Total long-term debt	28,481,000	30,348,000
DEFERRED FEDERAL INCOME TAXES	4,490,000	3,050,000
DEFERRED CREDIT ARISING FROM ACQUISITION, LESS AMORTIZATION	844,919	1,408,298
MINORITY INTEREST IN SUBSIDIARY	—	133,976
STOCKHOLDERS' EQUITY:		
Common stock, $10 par value (Note 3): Authorized 3,000,000 shares Issued — 1968, 2,505,361 shares; 1967 - 2,386,922 shares	25,053,610	23,869,220
Capital in excess of par value (Notes 3 and 4)	13,187,029	9,797,610
Retained earnings (Note 5)	90,131,758	86,311,981
Treasury stock, at cost, 1968 — 14,919 shares; 1967 — 18,379 shares (Note 3)	(416,572)	(538,806)
Total stockholders' equity	127,955,825	119,440,005
	$211,676,505	$191,931,254

A. O. SMITH CORPORATION

CONSOLIDATED STATEMENT OF SOURCE AND USE OF WORKING CAPITAL

	Years ended December 31, 1968	1967
SOURCE OF WORKING CAPITAL — OPERATIONS:		
Net income	$11,642,613	$ 9,627,397
Depreciation	9,874,829	10,171,611
Plant and equipment disposals	1,023,155	414,618
Deferred federal income taxes	1,440,000	200,000
Other items not affecting working capital	(202,336)	(436,629)
	23,778,261	19,976,997
USE OF WORKING CAPITAL:		
Cash dividends paid	3,198,167	2,808,416
Reduction of long-term debt	1,867,000	3,253,000
Plant and equipment expenditures	9,258,452	10,995,147
Prepaid pension costs	2,700,000	—
Investment in finance subsidiary	1,230,000	650,000
Acquisition of minority interest in consolidated subsidiaries	683,000	697,800
Sundry	(172,391)	177,942
	18,764,228	18,582,305
Increase in working capital	$ 5,014,033	$ 1,394,692

See accompanying notes.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE 1. PRINCIPLES OF CONSOLIDATION

The consolidated financial statements include the accounts of the Company and all subsidiaries except for a finance subsidiary. The investments in and advances to the finance subsidiary and affiliates (50% owned) are carried at cost plus equity in undistributed net earnings since acquisition.

NOTE 2. RETIREMENT PLANS

The Company and its consolidated subsidiaries have noncontributory pension plans covering substantially all employees. Total pension expense for 1968 and 1967 was $3,460,000 and $3,500,000, respectively, which amounts include current cost plus interest on unfunded prior service cost for all plans. In addition, the expense includes, for two plans (for which the actuarially computed value of vested benefits under the plans exceed the assets of related trusts by $9,500,000 as of December 31, 1968), a 40-year amortization of the prior service cost. The present policy is to fund pension cost accrued. An additional contribution to the pension trusts of $2,700,000 was authorized by the board of directors in 1968; this contribution is shown as prepaid pension costs in the balance sheet and the applicable deferred federal income taxes have been provided.

NOTE 3. STOCK OPTIONS

At December 31, 1968, 67,787 shares of the authorized but unissued common stock were reserved for issuance under the qualified stock option plan adopted in 1964. Options for 30,883 shares (of which options for 27,183 shares are currently exercisable) were outstanding at December 31, 1968, at per share prices ranging from $25.40 to $47.38 (option prices represent market values at date of grant). The options expire five years from date of grant and are exercisable six months after date of grant. Options for 9,865 shares were granted in 1968 at per share prices ranging from $36.63 to $47.38. Options for 1,504 shares were exercised in 1968 at $28.31 per share (total $42,578) and the excess of the proceeds over the par value of the shares issued of $27,538 was credited to capital in excess of par value.

Under a restricted stock option plan, adopted in 1962, options for 52,694 shares were outstanding at December 31, 1968, at per share prices ranging from $20.63 to $27.51. All of the treasury stock (14,919 shares) and 37,775 shares of authorized but unissued com-

REPORT OF CERTIFIED PUBLIC ACCOUNTANTS

The Board of Directors and Stockholders
A. O. Smith Corporation:

We have examined the accompanying consolidated balance sheet of A. O. Smith Corporation and subsidiaries at December 31, 1968 and the related consolidated statements of earnings, retained earnings and source and use of working capital for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the statements mentioned above present fairly the consolidated financial position of A. O. Smith Corporation and subsidiaries at December 31, 1968 and the consolidated results of their operations and the source and use of their working capital for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

ARTHUR YOUNG & COMPANY

January 17, 1969 Milwaukee, Wisconsin

mon stock are reserved for these options. The options expire ten years from date of grant and are exercisable at a maximum of one-half in any year. At December 31, 1968, options for 26,347 shares were exercisable under this plan. Treasury stock was issued for options for 1,273 shares and 3,105 shares that were exercised in 1968 at per share prices of $20.63 and $27.51, respectively. No further options can be granted under this plan.

NOTE 4. STOCK DIVIDEND

The Company issued a 5% stock dividend, 116,935 shares of common stock and $93,438 in lieu of fractional shares, in February, 1968. The market value of the shares ($4,531,231) and the cash paid in lieu of fractional shares ($93,438) was charged to retained earnings. The par value of the shares issued ($1,169,350) was added to common stock and the excess of the market value over the par value of the shares issued ($3,361,881) was credited to capital in excess of par value.

NOTE 5. RESTRICTIONS ON DIVIDEND PAYMENTS

The agreements relating to the 4¾% notes payable contain provisions restricting the payment of cash dividends and the retirement or acquisition of shares of the Company's common stock. The amount of retained earnings which was not so restricted at December 31, 1968, was $22,700,000.

NOTE 6. PROVISION FOR INCOME TAXES

The provision for income taxes includes charges for deferred federal income taxes of $1,440,000 and $200,000 in 1968 and 1967, respectively. The 1968 and 1967 provisions have been reduced by $650,000 and $600,000, respectively, for investment tax credits.

NOTE 7. DEPRECIATION

For financial statement purposes, depreciation on plant and equipment additions prior to January 1, 1954, and subsequent to December 31, 1966, is computed using the straight-line method; depreciation on additions between the above two dates is principally computed using accelerated methods. For income tax purposes the Company uses accelerated methods and guideline depreciation. Deferred federal income taxes are provided for the excess of depreciation claimed for income tax purposes over depreciation provided for financial statement purposes.

TEN-YEAR FINANCIAL SUMMARY

($000 Omitted Except for Per Share Values)

	1968	1967	1966
Net Sales	372,798	329,976	318,433
Net Earnings	11,643	9,627	8,738
Per Share (2)	4.68	3.87	3.51
As % of Sales	3.1%	2.9%	2.7%
As % of Average Stockholders' Equity	9.4%	8.4%	8.0%
Cash Flow (Earnings & Depreciation Only)	21,518	19,799	17,580
Per Share (2)	8.65	7.96	7.07
Cash Dividends	3,198	2,808	2,567
Per Share (As Declared)	1.30	1.20	1.15
Per Share (2)	1.29	1.13	1.03
As % of Net Earnings	27.5%	29.2%	29.4%
Stock Dividends	5%	5%	5%
Working Capital			
Cash & Marketable Securities	28,706	8,299	9,558
Receivables	42,766	41,598	39,415
Inventories & Other Assets	63,172	67,379	67,866
Total Current Assets	134,644	117,276	116,839
Current Liabilities	49,905	37,551	38,509
Net Working Capital	84,739	79,725	78,330
Current Ratio	2.7	3.1	3.0
Capitalization			
Stockholders' Equity	127,956	119,440	112,621
Book Value Per Share (3)	51.38	48.07	45.33
Long-Term Debt:			
Notes Payable	22,400	24,000	27,000
Lease Purchase Obligations	6,081	6,348	6,601
Total Long-Term Debt	28,481	30,348	33,601
Total Capital	156,437	149,788	146,222
Long-Term Debt As % of Total Capital	18.2%	20.3%	23.0%
Plant & Equipment			
Gross	160,457	157,040	151,165
Accumulated Depreciation	96,442	91,385	85,919
Net	64,015	65,655	65,246
Capital Expenditures	9,258	10,979	16,318
Annual Depreciation	9,875	10,172	8,842
Average Number of Employees	13,754	13,728	13,356

(1) In 1963 the Company changed its fiscal year from July 31 to December 31. Data shown is for the short period August 1, 1963 to December 31, 1963.

(2) Net Earnings, Cash-Flow, and Cash Dividends Per Share are based on aver-

1965	1964	1963 (1)	1963	1962	1961	1960	1959
358,441	299,852	112,585	281,819	249,053	221,952	265,178	283,650
7,918	1,512	1,819	5,513	5,922	(1,370)	5,557	13,082
3.18	.61	.73	2.22	2.38	(.55)	2.23	5.26
2.2%	.5%	1.6%	2.0%	2.4%	—	2.1%	4.6%
7.6%	1.5%	1.8%	5.6%	6.0%	—	5.6%	13.8%
17,493	10,387	5,361	13,664	14,501	6,799	12,936	19,934
7.03	4.18	2.16	5.49	5.83	2.73	5.20	8.02
2,148	2,147	536	2,145	2,145	3,415	4,173	3,283
1.00	1.00	.25	1.00	1.00	1.60	2.00	1.60
.86	.86	.22	.86	.86	1.37	1.68	1.32
27.1%	142.0%	29.5%	38.9%	36.2%	—	75.1%	25.1%
—	—	—	—	—	2%	2%	2%
14,155	7,434	12,313	10,198	9,175	14,891	11,546	11,841
35,520	38,947	36,322	36,262	32,555	22,155	25,627	24,681
59,178	62,811	49,919	54,168	44,657	39,659	45,171	48,205
108,853	109,192	98,554	100,628	86,387	76,705	82,344	84,727
31,507	42,874	22,508	23,726	19,536	15,323	16,591	17,599
77,346	66,318	76,046	76,902	66,851	61,382	65,753	67,128
3.5	2.5	4.4	4.2	4.4	5.0	5.0	4.8
106,445	100,675	102,498	101,216	101,740	96,898	101,683	100,299
42.85	40.52	41.30	40.79	41.00	39.05	40.98	40.42
31,000	32,440	32,570	32,570	25,000	26,000	27,000	28,000
—	—	—	—	—	—	—	—
31,000	32,440	32,570	32,570	25,000	26,000	27,000	28,000
137,445	133,115	135,068	133,786	126,740	122,898	128,683	128,299
22.6%	24.4%	24.1%	24.3%	19.7%	21.2%	21.0%	21.8%
128,610	137,012	127,975	126,958	116,200	114,148	110,526	103,596
77,933	78,138	74,083	72,258	64,237	60,444	56,429	53,123
50,677	58,874	53,892	54,700	51,963	53,704	54,097	50,473
6,596	16,657	3,491	8,581	8,422	8,714	12,133	11,133
9,575	8,875	3,542	8,151	8,579	8,169	7,379	6,852
14,752	14,146	13,091	12,609	11,228	11,668	12,331	12,586

age shares outstanding in each year adjusted for subsequent stock dividends.

(3) Book Value Per Share is based on year-end stockholders' equity and shares outstanding at year-end adjusted for subsequent stock dividends.

DIRECTORS

William O. Beers
President,
National Dairy Products Corporation

F. Shepard Cornell
Retired Executive Vice President

Elisha Gray II
Chairman of the Board and
Chief Executive Officer,
Whirlpool Corporation

Urban T. Kuechle
President

James D. Porter
Lawyer

Arthur O. Smith
President, Arthur Smith Industries

Lloyd B. Smith
Chairman and Chief Executive Officer

Morris J. Vollmer
Vice President, Finance

Carlton P. Wilson
President, Robert W. Baird & Co.

OFFICERS

GENERAL OFFICE

Lloyd B. Smith
Chairman and Chief Executive Officer

Urban T. Kuechle
President

John H. Brinker
Vice President, Marketing

Allan C. Crane
Vice President and Controller

Thomas H. Creden
Vice President

John P. Diesel
Vice President, Manufacturing and Planning

Roy A. Dingman
Vice President, Corporate Relations

James N. Johnson
Vice President, Secretary and
General Counsel

Charles H. LeClaire
Vice President, Employee and
Public Relations

Robert F. McGinn
Vice President, Research and Development

Robert A. Rietz
Vice President and Treasurer

Morris J. Vollmer
Vice President, Finance

Richard A. Wendorf
Vice President, Procurement

Donald L. Dunaway
Assistant Treasurer

John H. Lungren
Assistant Secretary and
Assistant General Counsel

J. Robert Mitchell
Assistant Treasurer

OFFICERS

OPERATIONS

Henry O. Allen
Group Vice President, Industrial Products

Milton E. Morgan
Group Vice President, Consumer Products

Dennis J. O'Connell
Group Vice President, International and
Special Products

John R. Parker
Group Vice President, Contract Products

James E. Borchert
Vice President Automotive

Paul R. Ellis
Vice President, International

Wallace T. Halket
Vice President, Consumer Products

Waldo W. Higgins
Vice President, Tubular Products

John M. Richardson
Vice President, Electric Motor

John J. Stahl
Vice President

David H. Stieber
Vice President,
Assistant General Manager, Automotive

Thomas A. Sullivan
Vice President, Meter Systems

TRANSFER AGENT
Manufacturers Hanover Trust Company
New York, New York

REGISTRAR
The Chase Manhattan Bank
New York, New York

AUDITORS
Arthur Young & Company
Milwaukee, Wisconsin

A. O. SMITH • AROUND THE WORLD

EXECUTIVE OFFICES

Milwaukee, Wisconsin

PRODUCTS AND LOCATIONS

Automotive Frames and Components

Passenger automobile frames and structural parts; truck, bus and trailer frames; wheel suspension control arms —

Milwaukee, Wisconsin;
Granite City, Illinois;

**Manufacturas Metalicas Monterrey, S. A., Monterrey, N. L., Mexico.

Electric Motors

Custom engineered motors for manufacturers of air conditioning, heating and commercial refrigeration equipment, domestic dishwashers, home water pumping systems and other specialized products —

Tipp City, Ohio;
Mount Sterling, Kentucky.

Electrical Controls

Clark packaged drives and drive systems for industrial processes; electrical controls for industrial and commercial applications —

Cleveland, Ohio;
Lancaster, South Carolina;
Los Angeles, California;

*Canadian Controllers, Ltd., Scarborough, Ontario, Canada.

Electronic Systems

Electronic key and card control fluid handling and data acquisition systems for petroleum loading and fleet fueling —

Menomonee Falls, Wisconsin.

Meter Systems

Positive displacement and turbine meters with accessories for liquid flow; liquid control valves; static charge measurement and reduction devices; remote electronic and electro-mechanical readout instruments; gasoline pumps; self-service dispensing systems —

Erie, Pennsylvania.

Powder Metal

E-M-P molding-grade steel powder for precision parts for automotive, appliance and other industries; electrode-grade iron powder and high purity melting stock —

Milwaukee, Wisconsin.

Railroad Equipment

Hydra-Buff and Cushion Ride freight car hydraulic cushioning devices; steel running boards and brake steps for freight cars; Boxweld brake beams; other brake equipment; glass fiber reinforced hopper car hatch covers —

Milwaukee, Wisconsin.

Reinforced Plastics

Specialized bodies, in plastic and steel, and parts for automotive and other transportation industries; other reinforced plastic moldings and assemblies —

Ionia, Michigan.

Red Thread, Green Thread and Chemline glass fiber reinforced epoxy and vinylester pipe and fittings; glass fiber reinforced electrical and industrial products —

Little Rock, Arkansas.

Storage and Handling Systems

Harvestore glass-fused-to-steel, farm storage systems; Permaglas bulk storage and handling units for commercial, industrial and municipal applications; Water-trol products for water management and soil erosion control; Liquanure manure handling and utilization systems; other livestock production equipment —

*A. O. Smith Harvestore Products, Inc., Arlington Heights, Illinois;
Kankakee, Illinois;
Elkhorn, Wisconsin;

**Mannesmann-A. O. Smith International GmbH, Dusseldorf, Germany.

Tubular and Ordnance

Oil well casing —

Milwaukee, Wisconsin.

**A. O. Smith Corporation Of Texas

Welded line pipe — Houston, Texas.

Bomb casings — Waco, Texas.

Water Heating Equipment

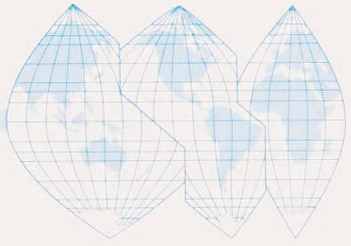
Permaglas and Glascote residential and commercial water heaters; Burkay commercial and industrial water heaters; swimming pool heaters; glass-lined storage tanks; hydronic heating equipment —

Kankakee, Illinois;
Stratford, Ontario, Canada.

PRODUCT SERVICE

Chicago, Illinois
Atlanta, Georgia
Union, New Jersey

*Indicates subsidiary
**Indicates affiliate operation



A.O. Smith CORPORATION

MILWAUKEE, WISCONSIN 53201